2006

Veterinary Medical Libraries in the 21st Century

Nancy L. Pelzer
Iowa State University

William H. Wiese
Iowa State University

VETERINARY MEDICAL

LIBRARIES

IN THE

21ST CENTURY

Veterinary Medical Libraries

in the

21st Century

by

Nancy L. Pelzer
Science and Agriculture
Catalog Librarian

William H. Wiese
Veterinary Medical Reference
and Collections Librarian

Iowa State University Library

2006

CONTENTS

PREFACE

The discipline of veterinary science encompasses a vast body of knowledge that is derived from basic and applied studies of biological processes and diseases in all animals except humans. Most of the work of veterinary scientists takes place in academic or government research settings. The delivery of a wide range of diverse animal health services to society is known as the profession of veterinary medicine. Veterinarians diagnose, treat and control animal diseases and injuries. They help prevent the outbreak and spread of animal diseases. They perform surgery on sick and injured animals and prescribe and administer medicines and vaccines. Some veterinarians inspect food, investigate disease outbreaks or work in laboratories as part of federal and state public health programs.

Information about the care of animals and treatment of their diseases is sought by a wide variety of people-- veterinary practitioners, veterinary students and researchers, agriculturists, pet owners, the popular press, government entities and others. The purpose of this volume is to present a picture of information access and delivery by United States and Canadian academic veterinary medical libraries (VMLs) to the veterinary community and others with interests in the profession. This is done by discussing the resources that are available, as well as methods of delivery of that information. Our discussion of these topics will not only point out the unique aspects of these collections and services, but will also illustrate much that is in common with all medical collections and library services. As with all libraries, the goal of VMLs is to provide high quality service while looking after the information needs of their clientele through selection, acquisition, cataloging, and dissemination of materials and familiarizing their users with these resources. In the past decade, new challenges and opportunities for information specialists stem from the impact of technology on VMLs. Our goal with this volume is to be concise, but thorough about all of these topics.

We begin with an historical overview of the evolution of VMLs in Chapter 1. As information management become increasingly “virtual,” emphasis must be shifted from collection ownership to information access. Chapter 2 discusses today’s collection development and management practices for books, serials and other non-book materials in VMLs, while Chapter 3 deals with the processing of the acquired materials. The focus of Chapter 4 is on reference and other public services in these libraries. In these chapters we attempt to provide a summary of knowledge that integrates past practices with issues of contemporary relevance, while casting an eye towards the future as we see it in Chapter 5.

CHAPTER 1

ACADEMIC VETERINARY MEDICAL LIBRARIES IN THE U.S. AND CANADA

INTRODUCTION

If you have ever watched circus animals perform, received a vaccine, eaten a piece of steak, or taken a pet to the clinic, you have been touched by the work of a veterinarian. Performing duties in animal welfare, medical research, food safety and clinical practice as they protect animal health and promote public health are primary obligations of the veterinary profession to society. Over 23,000 veterinary practices exist in the United States that employ an estimated 47,000 veterinarians who work in privately owned clinics. Public and corporate veterinarians add another almost 8,500 veterinarians who work in research and regulatory service (1). A particularly excellent description is given by Gibb of the variety of veterinary duties, including engagement in private practice, academics, government, etc. (2). A depiction of the relationship of veterinary medicine to other scientific disciplines and agriculture is shown in Fig 1.

FIGURE 1 RELATIONSHIP OF VETERINARY MEDICINE TO OTHER SCIENCES

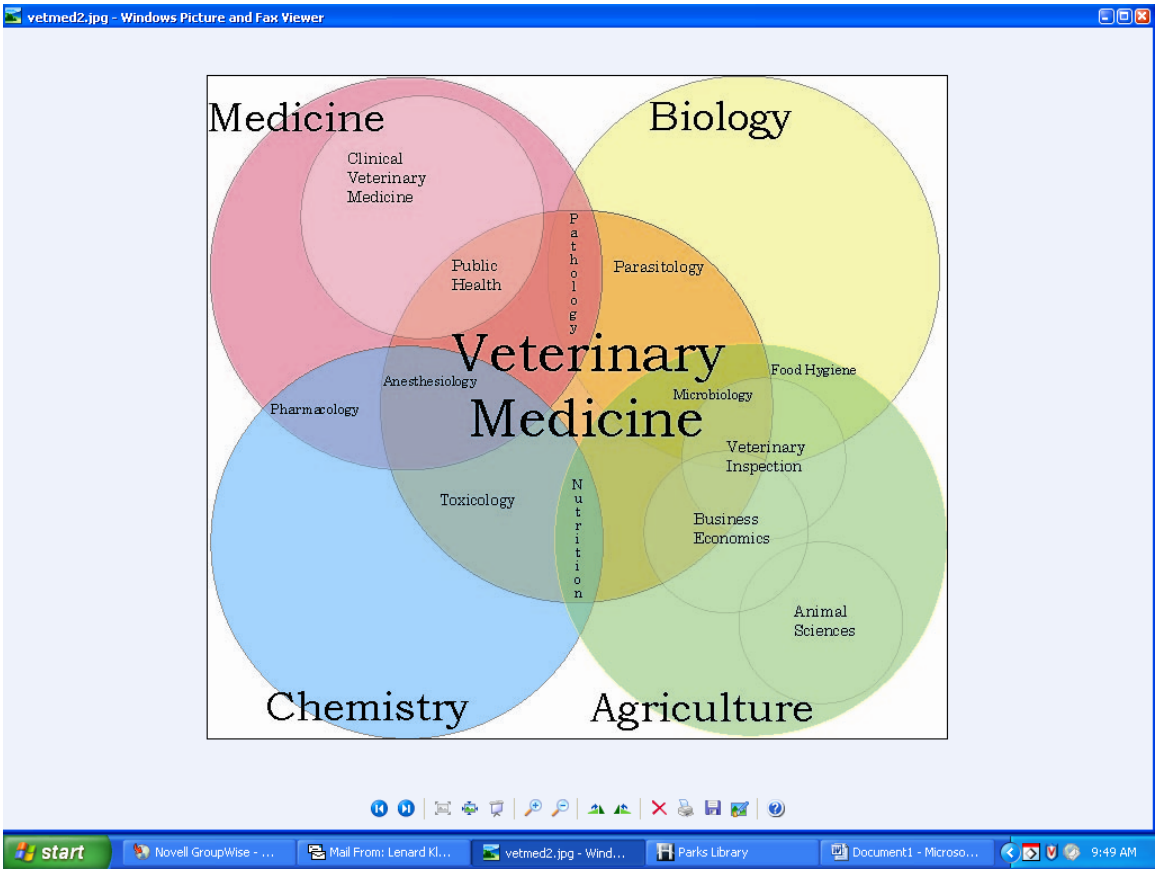


Illustration by Lenard Kluck

A number of books describe the history of veterinary medicine in some fashion, and that information does not need to be repeated here. Gibb, Oppong and Dunlop offer very fine chronologies into the evolution of veterinary medicine (2-4). More recently, Judith Ho at the National Agricultural Library presents an extensive bibliography of historical resources (5). Professor Dunlop's book is especially noteworthy for his extensive description of the earliest veterinary literature, from the Egyptian Kahun Papyrus, dating to about 1900 BC. The Chinese are credited with much of the early activity now known as veterinary medicine, this pertaining to care of military horses. Dunlop refers to the production of their veterinary literature, most of which dealt with horses, as beginning as early as AD581.

Today, veterinary professionals in North America are educated in universities that grant doctor of veterinary medicine degrees. Many of the earliest veterinary schools in the United States were private institutions that did not survive the vagaries of economic times. Unlike the governments of European nations, the United States government was not supportive of these schools. Other veterinary programs were outgrowths of curricula in veterinary science or agriculture at public colleges. Passage of the Morrill Acts of 1862 and 1890 ensured more stability for the teaching of veterinary medicine in the United States by establishing the land-grant colleges which considered it their duty to promote that profession. Iowa State College (University) was the first to open a state-supported veterinary school in 1879, with physical facilities that included a barn clinic and laboratory, a hospital, and a sanitary building. The thirty-two veterinary teaching institutions presently existing in the United States and Canada are, for the most part, separated by great geographic distances. Six schools are located in the western United States and Canada, 11 in the middle western states and provinces, 8 in the eastern states and provinces, and 7 in the southern United States.

Veterinary medicine is generally taught during 4 years of instruction. Post-doctoral education via internships and residencies may then be elected. Instruction begins with the pre-clinical sciences, such as physiology and pharmacology, which are then followed by the clinical sciences where a more problem oriented approach is taken as case work is integrated into the curriculum. In recent years, evidence-based medicine has made its debut into some veterinary instruction programs, thus enhancing the exposure of those students to the role of information resources and services.

Veterinary medical libraries evolved with the profession to try to answer its information needs in all of its capacities. While this evolution is sparsely documented in many cases, when found, documentation relates an array of dispersed veterinary collections, the struggle to find common space for materials, and the appropriate expertise to manage them. Gibb notes, "Specialist veterinary libraries or collections are few in number and most are in veterinary schools or run by national organizations" (2). The concept of a veterinary medical library being an adjunct to veterinary education was not fully realized until the 1960's. Fadenrecht's 1964 article entitled "Library Facilities and Practices in Colleges of Veterinary Medicine" (6) quotes the American Veterinary Medical Association's (AVMA) 1962 annual directory as saying that a library should be established as part of a veterinary school, as it is essential to a sound program of

veterinary medical education. At that time, according to Bigland, "more and more emphasis was being placed on the library as a source of information, learning and research, particularly in the veterinary colleges of the United States where research programs were expanding"(7). The quote goes on to say that a professionally trained librarian should administer the library. In 1970 the AVMA again voiced its general guidelines for what it thought a library should have in order to meet its accreditation requirements:

The library should be established as a part of the veterinary medical school; it should be well-housed, conveniently located, and available for the use of students and faculty at all reasonable hours. It should be administered by a professionally trained or experienced librarian and should be adequately sustained both for operation and for the purchase of current periodicals and other accessions of veterinary medical importance (8).

The Veterinary Medical Library Section of the Medical Library Association appointed a standards committee in May of 2000 to "create standards for the ideal academic veterinary medical library, written from the perspective of veterinary medical librarians". They include a statement of need for the library's collection in support of programs at the veterinary medical institution (including the need for interlibrary cooperation), and for the services that will be necessary for these programs. Other statements of need in the document address space requirements, and, in order to assure the library's success, the necessity of a healthy administrative structure that is attuned to the needs of the library.

Today in the United States and Canada, veterinary medical libraries provide services and collections that support primarily teaching, clinical applications and research at colleges of veterinary medicine. They also serve students, faculty and staff of other academic subject disciplines on campus that interact with veterinary medicine, primarily the fields of agriculture, biological sciences, human medicine, nursing and pharmacy. They are state and national research resources because of their unique collections. They support the bibliographic needs of state and federal diagnostic laboratories, federal research laboratories, agricultural experiment stations and independent veterinary practitioners. The last group has been a particularly problematic one since this group has information needs that span all veterinary subspecialties while often practicing in areas remote to veterinary libraries.

The 2000/2001 "Survey of Veterinary Medical Libraries in the United States and Canada," (9) issued by the Veterinary Medical Libraries Section of the Medical Library Association groups veterinary medical libraries by their physical type:

> Group 1: A separate library that serves primarily the faculty, staff, and students of school/colleges of veterinary medicine. This is the most common situation.
> Group 2: Separate locations for the veterinary collections – a campus library and a clinical library.

> Group 3: A separate library unit that serves two or more curricula, including veterinary medicine. These are usually the largest libraries in the survey and include medical, agricultural and general university library collections.

Most of the Group 1 libraries range in size between 6500 and 8500 square feet of available space. The clinical library in Group 2 is typically smaller, while those in Group 3 are much larger.

Among the many categories of data reported in this survey is the composition of the user groups of some of these libraries. For the twenty-one libraries reporting for the category "Number of Primary Clients" during that year, the summarized data shows:

Veterinary Medicine Faculty	2867
Medicine Faculty	589
Veterinary Medical Students	7936
Medical Students	1261
Veterinary Medical Graduate Students	1590
Medical Graduate Students	245
"Other" Graduate Students	250

Smaller numbers of pharmacy, nursing, agriculture and "Other" faculty and students are also reported in the survey. Gate counts for the majority of the Group 1 libraries that reported ranged between about 39,000 and 56,000 per year. All Group 3 reporting libraries tallied over 70,000 users, as did two libraries in Group 1, and one of the libraries in Group 2.

According to the survey results and the hours posted at the various Web sites of the libraries, the number of hours that the libraries are open to provide on-site services ranged from the low 80's to around 100 hours per week. Services that are offered during these hours include on-site reference assistance, literature searches, document delivery, loan of materials and interlibrary loan service. Access to online catalogs, electronic full text journals, and World Wide Web sites is typically available whether or not the library is open.

EVOLUTION OF SOME VETERINARY MEDICAL LIBRARIES

CORNELL UNIVERSITY

The AVMA Directory (2002) gives a short description of the inception of veterinary medical education at Cornell University in 1868. Dr. James Law (of Edinburgh, Scotland) became the first professor of veterinary medicine at an American university (10). New York State Governor Roswell P. Flower formally signed legislation to establish the New York State Veterinary College at Cornell University in 1894. A

fascinating account of the evolution of the Cornell veterinary medical library, written by Suzanne K. Whitaker, veterinary medical librarian from 1978-1998, appears online (11). She relates that although two rooms were allotted to a library, there were no books or other materials available to place there. One of the first professional veterinary medical librarians, Atha Louise Henley, noted in her historical accounting of the VML Section of the Medical Library Association that "Often, our holdings of veterinary medicine and related sources on medical specialties and comparative medicine had been the textbooks and private collections of early deans and faculty members of institutions" (12). She goes on to say that in 1897 the then ex-governor Flower of New York state seized the opportunity to donate $5000 towards the purchase of materials for the library. "By 1901, 304 bound volumes along with unbound works, pamphlets, and water color illustrations had been purchased with $4000 of the Governor's gift." The library's first full-time librarian was appointed in 1923. According to Whitaker, the library was expanded or relocated several times before its current location in the Veterinary Education Center building, with over 18,000 square feet of space assigned to the library as reported in the 2000/2001 Veterinary Medical Library Section survey (9). The library Web site lists the collection holdings as of June 30, 2003 as over 100,000 bound volumes, over 800 serial subscriptions and about 1600 audiovisual titles.

UNIVERSITY OF PENNSYLVANIA

The University of Pennsylvania's School of Veterinary Medicine was established in 1883 and opened in 1884. According to John E. Martin's "A Legacy and a Promise—University of Pennsylvania School of Veterinary Medicine," the first written reference to a formal library facility appears in the 1913 Veterinary School Bulletin." "Prior to 1913 documents mention a reading room that also functioned as a library." (13). In what becomes a familiar refrain when reading about early veterinary libraries, they go on to say that most of the books were contributed by the faculty. At this time the library is described as being located in the corner of one of the veterinary buildings and as having a part-time librarian in Dr. Victor G. Kimball, an instructor in veterinary medicine. The library was not part of the University of Pennsylvania's library system. It would not have its own full-time librarian until 1942 when sufficient donated funds had been secured to support an expanded library. The library went from on initial 2800 volumes to 8,000 by 1944 according to Martin. In what was ascribed to a change in veterinary school teaching methods towards "self-learning," use of the library was moved to a new building in 1964. The library had become a part of the University Library system, with full service offerings beyond housing and circulation.

WASHINGTON STATE UNIVERSITY

The professional veterinary school at then Washington State College opened in 1899. From Peter Harriman and Ghery D. Pettit's book about the College of Veterinary Medicine at Washington State, "First Century: a centennial history," published in 1998, we learn that:

> A proposal for a new veterinary medical library was developed in 1962. It was originally to have been built on the lawn between Wegner and McCoy Halls. WSU hoped to secure a National Institutes of Health grant for the estimated $227,000 construction and wanted to have it completed by 1964. Instead, the library was established in a 7,700-square-foot addition to Wegner Hall. When Wegner Hall was gutted and doubled in size in 1980 so the VCAPP Department could share the building with the College of Pharmacy, the library was enlarged again. It presently has more than 60,000 volumes and serves 85,000 patrons annually. In April 1990, librarian Vicki Croft became a Distinguished Member of the Medical Library Association, its highest level of certification. (14)

Online "History and Focus" information speaks to the merging of the pharmaceutical and veterinary medical collections to "serve the needs of not only WSU campus patrons and practicing veterinarians, but also pharmacists and clinical pharmacologists" (15). That was followed by transfer of medical and nursing journals from the science library to the veterinary medical/pharmacy library in 2000, and a subsequent renaming of the library to "Health Sciences Library" to reflect the broader focus of the library. The 2000/2001 Veterinary Medical Library Section survey (8) lists total volumes of the library at just over 72,000.

COLORADO STATE UNIVERSITY

Following the inception of a department of veterinary science in 1883, the professional veterinary program became one of the earliest veterinary schools to be established in the western United States in 1907. At the time, the Colorado Agriculture College library was housed in the same building as the veterinary laboratory which, according to Teri Switzer, was apparently quite odiferous (16). The collection of veterinary materials was described by Switzer as being "meager," but was greatly expanded when the Veterinary Medical Association used proceeds from the sale of textbooks to purchase more veterinary books for the library. Switzer goes on to say that "By 1912 the Veterinary Science Department held one of the best 'strictly veterinary' libraries in the United States." When a new veterinary building became a reality in 1979, space was allotted for the Veterinary Teaching Hospital Branch Library through a memorandum of understanding between the deans of the library and of the college of veterinary medicine. Switzer recounts that the collection of veterinary books grew from 950 in 1980 to nearly 2000 in 1991, and that journal subscriptions doubled in that time span. Online information about the library shows a collection size of approximately 10,000 volumes and 161 serial subscriptions (17).

TEXAS A & M UNIVERSITY

Texas A & M University opened its School of Veterinary Medicine in 1916 with thirteen students. Patton W. Burns tells us in "Veterinary Medicine at Texas A & M University 1958-1975" that "The veterinary library was opened in September of 1949 with an inventory of 533 books and 678 bound periodicals with limited space in the southwest corner of Veterinary Medicine Building" (18). It employed a graduate librarian. From 1949 on, a library committee was appointed annually by the Dean of Veterinary Medicine

that was comprised of veterinary faculty and the librarian. The library outgrew the initial space and in 1968 was awarded "a central and prominent location of the first floor of the Veterinary Administration Building [with] approximately 10,000 square feet of floor space." He describes the Veterinary Medical Library as being part of the University Library system with housing, furnishings and equipment supplied by the College of Veterinary Medicine. The library, now named the Medical Sciences Library, currently also serves professional medical faculty and students, in approximately 44,000 square feet of space, with holdings of over 120,000 print volumes and 1,600 serials according to its Web site (19).

UNIVERSITY OF ILLINOIS

As with many of the earlier schools, the University of Illinois offered courses in veterinary medicine well before the first class of students began receiving instruction in the newly authorized College of Veterinary Medicine in 1948. Online historical information informs us that prior to the formal opening of a veterinary medical library in 1952 when the new Veterinary Medicine Building was completed, books covering the topic of veterinary medicine were housed in various buildings around the campus (20). At that time the library consisted of a single room of about 2700 square feet. Books and journals were relocated to the new library, which, according to the website, has been staffed with a librarian and support staff since its opening. In 1982 the library was relocated to more than 10,000 square feet of space in the Veterinary Medicine Basic Science Building, and, according to the library's Web home page, as of 1998 holds over 47,000 volumes (including monographs, bound periodicals, video tapes and theses). The library's mission statement says that "The collection and the services of the Veterinary Medicine Library are primarily intended to support the teaching, research, and public service activities of the College of Veterinary Medicine as well as those in related departments across campus" (21).

TUSKEGEE UNIVERSITY

A few pages are devoted to the founding of the Tuskegee University School of Veterinary Medicine's library in (veterinary Professor?) Eugene W. Adam's historical accounting of that veterinary school. He noted that "there was no formal library facility in the School of Veterinary Medicine during its first years" (22). However, the AVMA's Council on Education inspection team in 1949 urged that a reading room for veterinary materials be established. In a 1965 report, this room was subsequently described as being small, with unclassified materials, and lacking any staff attending to it. Adam's goes on to say that "It was not until 1967 when Mrs. Frances Davis, (B.S., M.L.S.), the first qualified librarian, was assigned to the School of Veterinary Medicine Reading Room, that a formal connection was established with the Central Library." During the 1970's improvements to library resources and services were made that brought the library to a full service status that met student needs and the accreditation requirements of the AVMA. The library's Web home page describes the current library as being located in

the School of Veterinary Medicine complex, with holdings of about 31,000 volumes (including monographs, bound serials, and microfilm).

IOWA STATE UNIVERSITY

Knowledge of the evolution of the veterinary library at Iowa State University comes to us through Sara R. Peterson who documented its beginnings in an article published in the Bulletin of the Medical Library Association in 1979 (23), and through file records at the library. The file records relate that veterinary courses were first offered to senior class agriculture students in 1872. Subsequently, in 1879, under the direction of Dr. Millikan Stalker, the School of Veterinary Science was founded, offering a two-year program. Dr. John Thomson, 14th Dean of the college, said that "A founding premise of the college was to provide a scientific method and organization to the control of animal diseases, helping to ensure the success of the food animal industry" (24). The program was extended to three years in 1887, then to four years in 1903. According to the file records, "early physical facilities included a barn that served as a clinic and laboratory, a veterinary hospital and the Sanitary Building." A Veterinary Medical Quadrangle was constructed in 1912, housing the College of Veterinary Medicine, along with space for a library. The collection at that time served the Departments of Zoology and Bacteriology as well as the College of Veterinary Medicine. The records say that the first librarian, Agnes Flemming, was not hired until 1915. Peterson quotes the 1917 Iowa State College catalogue as listing 2600 volumes and 100 technical journals and farm papers in the collection. However, this collection was incorporated into the central university library collection in 1925 when a new building for it was opened. Apparently need was felt by the veterinary students to have a few of their own specialized materials available at the Veterinary Quadrangle, and in 1943, a student gift fund was established to purchase books for this purpose. Ms. Peterson was hired in 1971 to coordinate plans for a new library, acting on the recommendations of Ann Elizabeth Kerker, veterinary medical librarian at Purdue University, who in 1968 was consulted by Warren B. Kuhn, the Dean of Library Services, and Dr. Ralph Kitchell, the Dean of the Veterinary College about establishing a strong veterinary collection to be housed in new College of Veterinary Medicine facilities. These new facilities were opened for student use in the fall of 1976. As a typical Group 1 library (a separate or branch library that serves primarily the faculty, staff and students of schools/colleges of veterinary medicine), this library currently serves approximately 150 veterinary medical faculty, 400 veterinary medical professional students, and 85 graduate students in a 6631 square foot facility within the College of Veterinary Medicine. The home page link in electronic format is <http://www.lib.iastate.edu/services1/branch/vet_links.html>.

FIGURE 2 IOWA STATE UNIVERSITY VETERINARY MEDICAL LIBRARY

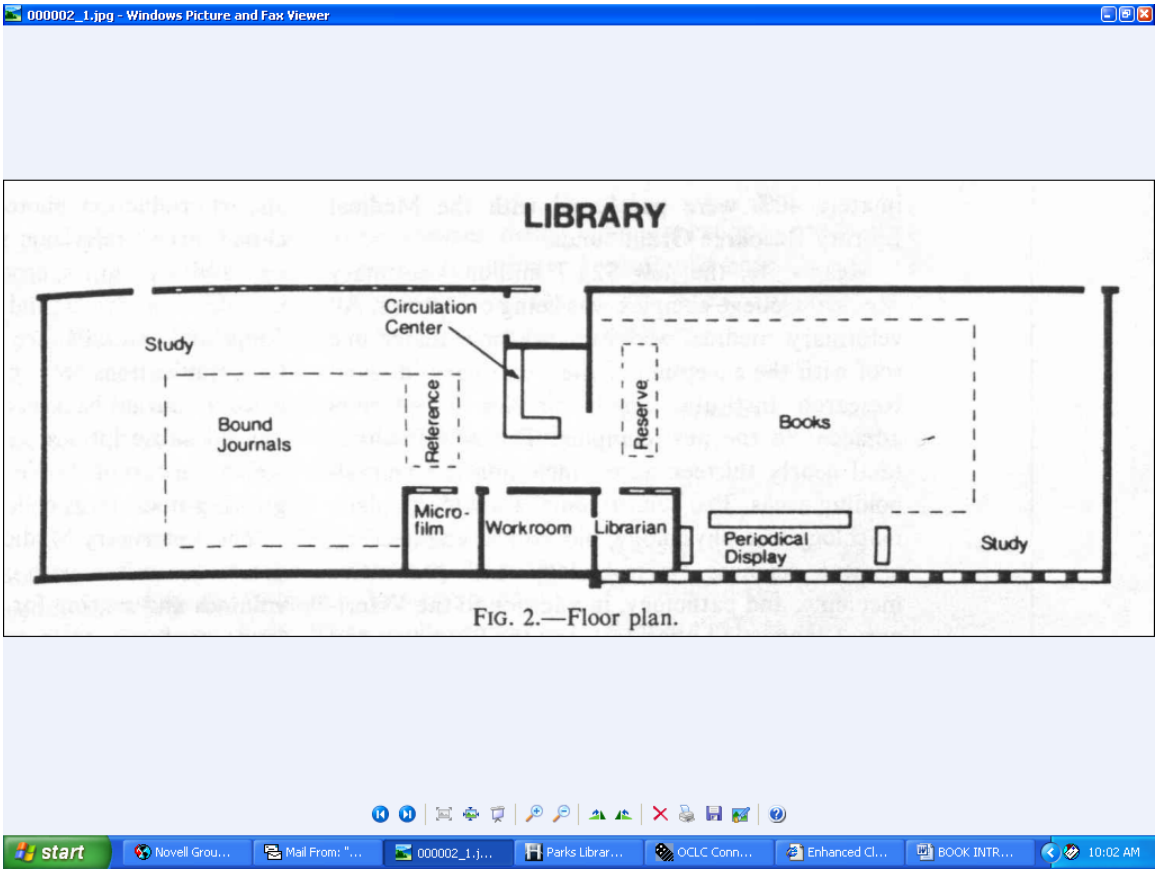


FIG. 2.—Floor plan.

One professional librarian, two paraprofessionals and 2 students provide services at various times during the 83.5 hours that the library is open to users. The library maintains a collection of approximately 34,000 volumes and 700 periodical titles in print.

Its holdings are primarily in veterinary science and the related subjects of comparative and human medicine, animal science, and zoology. The collection is divided into two major parts, separated by the Service Desk: journals on one side of the room and books on the other (Figure 2). Both books and journals are arranged by Library of Congress call number. Many journals, books, and indexes are now accessible from the library's website. Journal articles, book chapters, and index citations can be viewed from the computer screen, printed, or downloaded.

FIGURE 3 IOWA STATE UNIVERSITY VETERINARY MEDICAL LIBRARY SERVICE DESK

WESTERN COLLEGE OF VETERINARY MEDICINE, UNIVERSITY OF SASKATCHEWAN

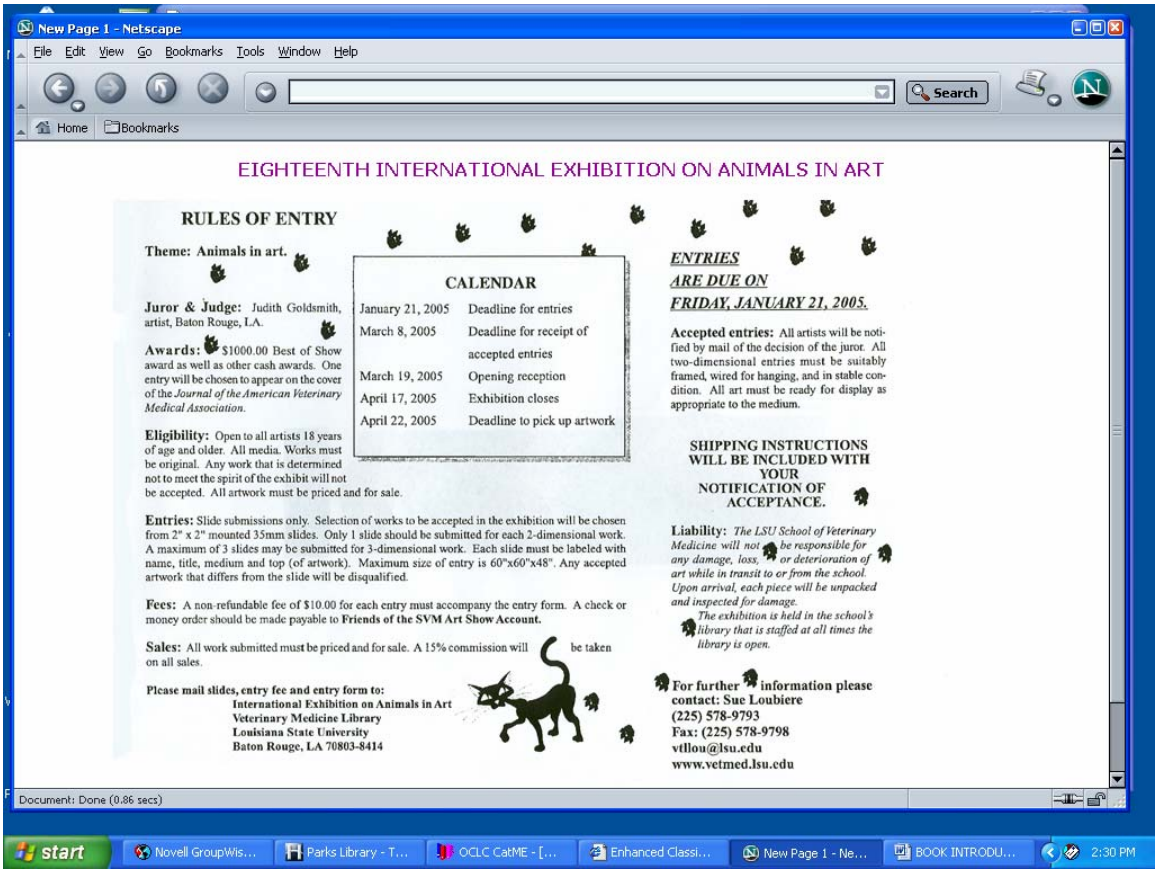
In the fall of 1963 the Western College of Veterinary Medicine was established to serve the needs of the four western Canadian provinces. Dr. Christopher Hedley Bigland, VS, DVM, DVPH, MSc, MRCVs, DSc., wrote an engaging section describing the inception of the veterinary library in his book about the history of the Western College of Veterinary Medicine (WCVM) (7). The Ontario Veterinary College, which is one of the oldest in North American (having been established in 1862) had a library that Bigland describes in the 1940's as being typical for the times. It consisted of a few outdated books and a few journals, with "no librarian and no encouragement to read the current literature." He reports that at the time of establishment of the WCVM in 1963 for four years of professional study, interest in a veterinary library was high. Space for such a library, though small, was allotted. Bigland describes the area as comprised of two rooms with two small tables, four chairs, and shelving. The University of Saskatchewan

already had an established system of branch libraries, with each having a trained librarian to administer it. The first veterinary medical librarian, a Mrs. Martin, arranged for the transfer of veterinary books and journals from other libraries in the system to the VML. Dr. Bigland describes this as a "great step forward for the faculty to be able to take a spare half hour from their very busy planning schedule to leaf through some of the current journals." The idea for a "Friends of the WCVM" was incepted by a Calgary practitioner and other Alberta veterinarians as a means of donating funds for library purchases. Veterinarians throughout western Canada donated funds which were then matched by a Calgary philanthropist. According to Bigland, by the time of the Colleges' official opening in July of 1969, these funds helped procure back journals, books and equipment for a two story facility in the new veterinary college. He reports that by 1979, the library consisted of 150,000 books, and about 650 journals and that "the WCVM library was considered by many to be one of the best veterinary libraries in the world." According to the library's Web home page, its collection consists of holdings in veterinary medicine, toxicology and animal science in print format and increasingly in CD-ROM and networked products (25). The 2000/2001 survey done by the Veterinary Medical Libraries Section reports a 2,250 square foot facility with study seating of 85 and specialized seating of 13; monograph volumes numbering about 21,000 and 18,000 journal volumes from a total of 392 serial titles.

LOUISIANA STATE UNIVERSITY

Instruction for the first class of veterinary students at the Louisiana State University (LSU) School of Veterinary Medicine began in January of 1974. In a more ordered manner than has been seen with the evolution of previously described veterinary libraries, development of the LSU veterinary library began the year following authorization by the LSU Board of Supervisors for a veterinary school in 1968. According to veterinary librarian Sue Loubiere, both library and veterinary personnel were involved in the planning for physical design as well as in the early development of the collection (26). In an unusual circumstance, the professional librarian was appointed as a veterinary faculty school member in 1974, while the library itself was administered by the Director of the LSU Library. This relationship ended in 1978 when a new veterinary medicine building was completed, and included 7400 square feet of space for the library. Administratively, the library reports to the School of Veterinary Medicine, and functions autonomously from the LSU university library. Loubiere states that the "SVM Library has become the primary source for health science materials in the Baton Rouge area." The library's Web home page lists current holdings of approximately 45,000 volumes and 6,000 current periodicals covering the subject areas of veterinary and medicine, as well as some materials in related areas such as the animal sciences, comparative medicine and public health (27). The library is also well known as the site of an annual juried art exhibition held by the School of Veterinary Medicine. Entries are submitted by artists from throughout the United States and, occasionally, the world.

FIGURE 4 ART EXHIBITION PROSPECTUS, LOUISIANA STATE UNIVERSITY VETERINARY MEDICAL LIBRARY



EIGHTEENTH INTERNATIONAL EXHIBITION ON ANIMALS IN ART

RULES OF ENTRY

Theme: Animals in art.

Juror & Judge: Judith Goldsmith, artist, Baton Rouge, LA.

Awards: $1000.00 Best of Show award as well as other cash awards. One entry will be chosen to appear on the cover of the *Journal of the American Veterinary Medical Association.*

Eligibility: Open to all artists 18 years of age and older. All media. Works must be original. Any work that is determined not to meet the spirit of the exhibit will not be accepted. All artwork must be priced and for sale.

Entries: Slide submissions only. Selection of works to be accepted in the exhibition will be chosen from 2" x 2" mounted 35mm slides. Only 1 slide should be submitted for each 2-dimensional work. A maximum of 3 slides may be submitted for 3-dimensional work. Each slide must be labeled with name, title, medium and top (of artwork). Maximum size of entry is 60"x60"x48". Any accepted artwork that differs from the slide will be disqualified.

Fees: A non-refundable fee of $10.00 for each entry must accompany the entry form. A check or money order should be made payable to **Friends of the SVM Art Show Account.**

Sales: All work submitted must be priced and for sale. A 15% commission will be taken on all sales.

Please mail slides, entry fee and entry form to:
International Exhibition on Animals in Art
Veterinary Medicine Library
Louisiana State University
Baton Rouge, LA 70803-8414

CALENDAR

January 21, 2005	Deadline for entries
March 8, 2005	Deadline for receipt of accepted entries
March 19, 2005	Opening reception
April 17, 2005	Exhibition closes
April 22, 2005	Deadline to pick up artwork

ENTRIES ARE DUE ON FRIDAY, JANUARY 21, 2005.

Accepted entries: All artists will be notified by mail of the decision of the juror. All two-dimensional entries must be suitably framed, wired for hanging, and in stable condition. All art must be ready for display as appropriate to the medium.

SHIPPING INSTRUCTIONS WILL BE INCLUDED WITH YOUR NOTIFICATION OF ACCEPTANCE.

Liability: *The LSU School of Veterinary Medicine will not be responsible for any damage, loss, or deterioration of art while in transit to or from the school. Upon arrival, each piece will be unpacked and inspected for damage. The exhibition is held in the school's library that is staffed at all times the library is open.*

For further information please contact: Sue Loubiere
(225) 578-9793
Fax: (225) 578-9798
vtllou@lsu.edu
www.vetmed.lsu.edu

Reprinted with permission

EVOLUTION OF THE VETERINARY MEDICAL LIBRARY SECTION OF THE MEDICAL LIBRARY ASSOCIATION

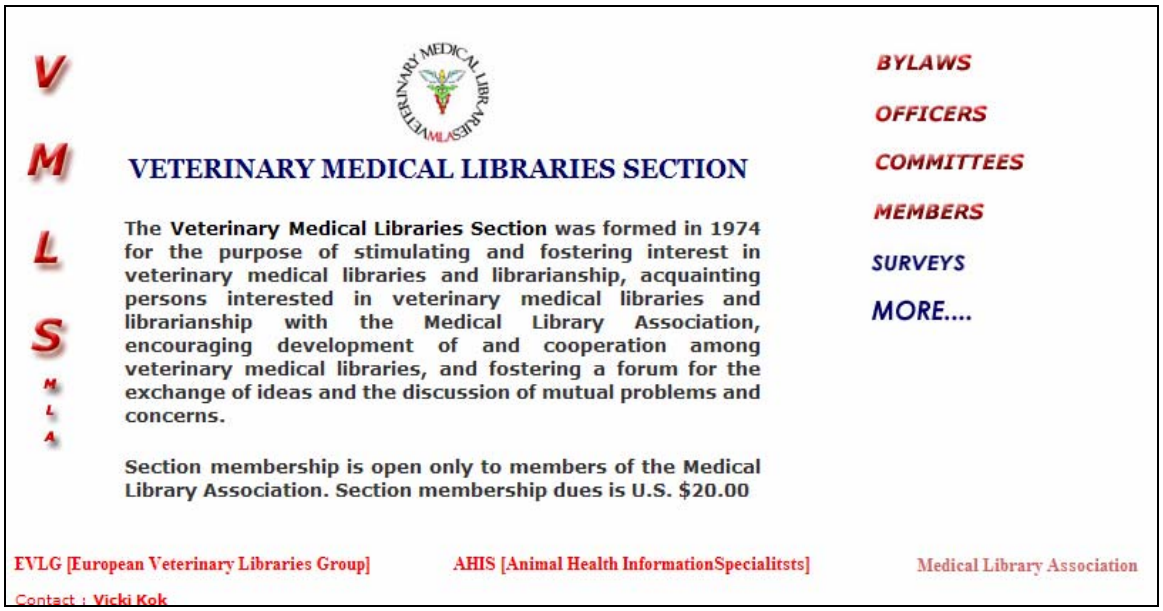
An informative narrative of the history of the evolution of the Veterinary Medical Libraries Section of Medical Library Association (MLA) appears at the MLANET Web site (12). According to the Web site a "Committee to Investigate the Possibility of Writing a History of the Section" was appointed in 1987. It was charged with removing the Section's archives from the possession of past or present Chair of the Section to a more formal home under the purview of an appointed archivist who would be responsible for collecting and maintaining the chapters archival materials. Altha Louise Henley, a veterinary medical librarian at Auburn University Libraries from 1970-1983, became the Section's first archivist in 1989. Her historical accounting comprises a substantial part of the section's history found at the website. She relates the actions of several pioneering

veterinary medical librarians in the 1960's and 1970's who educated others in the medical and library professions to "the importance of veterinary medicine as a vital part of medicine." . According to Henley, this was accomplished in part by their scholarly publications and in other ways, such as lobbying the MLA for recognition as a section. As increasing numbers of veterinary medical librarians participated in informal gatherings at the annual MLA annual meetings, she relates that support was born for the establishment of such a group. Formal approval came from the MLA board in 1973. Ann Elizabeth Kerker, Purdue veterinary medical librarian, and subsequent president of the MLA (1975-76), is accorded much of the credit for the inception of this section. According to the MLANET Web site, the stated purpose of the group was:

> -to stimulate and foster interest in veterinary medical libraries and librarianship;
> -to acquaint persons interested in veterinary medical libraries and librarianship with the Association;
> -to encourage development of and cooperation among veterinary medical libraries, and;
> -to foster a forum for the exchange of ideas and the discussion of mutual problems and concerns.

Henley's accounting relates that important organization recognition was garnered from the National Library of Medicine and the National Agricultural Library, which supported the group through employee participation at the group's meetings and cooperative projects. The AVMA and the Commonwealth Agricultural Bureau (CAB) also supported the group in many ways, including the AVMA's regular publication of information about veterinary libraries with their services in their annual Directory, and through presentations by AVMA and CAB members at the group's annual meetings. Now formally called the Veterinary Medical Libraries Section, this group of approximately 75 members (in 2005) is active with programming at the MLA annual meeting that frequently includes tours of zoos and other animal facilities around the nation. They maintain an electronic mailing list, VETLIB-L that is available to members worldwide, and a twice yearly newsletter called Highlights & News Notes, both of which are used for networking, and for sharing resources and expertise.

FIGURE 5 VETERINARY MEDICAL LIBRARIES SECTION HOME PAGE



BIBLIOGRAPHY

1. American Veterinary Medical Association. Veterinary Market Statistics – U.S. Veterinarians <http://www.avma.org/membshp/marketstats/usvets.asp#prac> (accessed November, 2005)

2. Gibb, Mike. Keyguide to information resources in veterinary medicine. London: Mansell Pub, 1990.

3. Oppong, E.N.W. Veterinary medicine in the service of mankind. Accra: Ghana Academy of Arts and Sciences, 1998.

4. Dunlop, R.H. Veterinary medicine: an illustrated history. St. Louis: Mosby, 1995.

5. Ho, Judith. Information resources on veterinary history at the National Agricultural Library. Animal Welfare Information Center, 2005. Available online at: < http://www.nal.usda.gov/awic/pubs/VetHistory/vethistory.htm#doctop >

6. Fadenrecht, George H. Library facilities and practices in colleges of veterinary medicine. College & Research Libraries 25 (1964):308-316, 335.

7. Bigland, Christopher Hedley. WCVM—the first decade and more. The history of the Western College of Veterinary Medicine. Saskatoon: Western College of Veterinary Medicine, University of Saskatchewan, 1990.

8. Committee on Veterinary Medical Research and Education, National Research Council. New horizons for veterinary medicine. Washington, D. C.: National Academy of Sciences, 1972.

9. Veterinary Medical Libraries Section of the Medical Library Association. Survey of Veterinary Medical Libraries in the United States and Canada 2000/2001. <http://www.lib.vt.edu/services/branches/vetmed/VMLS/2000-2001%20Survey%20Results.pdf> (viewed November 8, 2005).

10. AVMA directory and resource manual. Schaumburg, Ill: American Veterinary Medical Association, 2002:221.

11. Whitaker, Suzanne K. Flower-Sprecher Veterinary Library, Overview and History. <http://www.vet.cornell.edu/library/overview.htm> (viewed April 25, 2005)

12. MLANET. Veterinary Medical Libraries Section History. <http://www.mlanet.org/about/history/unit-history/veterinary.html> (viewed April 25, 2005)

13. Martin, John E. A legacy and a promise: the fist one hundred years 1884-1984. [S.l.]: Neibauer Press, 1984.

14. Harriman, Peter, and Ghery Pettit. The first century: a centennial history. Washington State University. Pullman: Washington State University, 1998.

15. Washington State University, Health Sciences Library. About Us, History and Focus. <http://www.wsulibs.wsu.edu/hsl/about.htm#history> (viewed April 20, 2005)

16. Switzer, Teri. Colorado State University's Veterinary Teaching Hospital Branch Library: Eighty Years in the Making. Colorado Libraries 17 (1991):36-38.

17. Colorado State University Libraries, Veterinary Teaching Hospital Branch Library. About Our Collection. <http://lib.colostate.edu/branches/vet/about.html> viewed April 20, 2005).

18. Burns, Patton W. Veterinary medicine at Texas A & M University 1958-1975. [S.l. : s.n.], 1976.

19. Texas A & M University Libraries. Medical Sciences Library. About MSL. <http://ednetold.tamu.edu/vgn/portal/tamulib/content/renderer/0,2174,1724_17562,00.html> (viewed April 20, 2005).

20. University of Illinois, Veterinary Medicine Library. History. <http://www.library.uiuc.edu/vex/vetdocs/history.htm> (viewed April 20, 2005)

21. University of Illinois, Veterinary Medicine Library. Mission Statement. <http://www.library.uiuc.edu/vex/vetdocs/mission.htm> (viewed April 20, 2005)

22. Adams, Eugene W. The Legacy: a history of the Tuskegee University School of Veterinary Medicine. Tuskegee, Ala: Media Center Press, Tuskegee University,1995.

23. Peterson, Sara R. Evolution of a veterinary medical library. Bulletin of the Medical Library Association 67 (1979):36-41.

24. Iowa State's College of Veterinary Medicine celebrates 125th anniversary. April, 2005. <http://www.iastate.edu/~nscentral/releases/05/apr/anniversary.shtml> (viewed April 20, 2005)

25. Veterinary Medicine Library, University of Saskatchewan. Collections. <http://library.usask.ca/vetmed/collections.htm> (viewed April 20, 2005).

26. Loubiere, Sue. Louisiana State University School of Veterinary Medicine Library. LLA bulletin 48(986):145-147.

27. School of Veterinary Medicine, Louisiana, Veterinary Medicine Library. <http://www.vetmed.lsu.edu/library/vetlib/coll.htm> (viewed April 20, 2005)

CHAPTER 2

COLLECTION DEVELOPMENT

Collection development, for the purposes of this chapter, has to do with selecting, acquiring, and managing a wide variety of materials for the users of an academic veterinary medical library. The library's collection is developed, evaluated and re-evaluated over time, according to an overall policy or plan. Collections in these libraries are very similar at their heart since basic needs are in each case dictated by the faculty, staff, and students of a college or school of veterinary medicine. At the same time, each library possesses its own unique collection that has been shaped around the specific professional and graduate course offerings and program requirements, research emphases and interests, organizational structure, physical facilities, and client categories served by the library that exist "outside" the institution, as well as the philosophies and preferences of the bibliographer responsible for the veterinary medical collection.

The typical library serving one of the 32 AVMA-approved (American Veterinary Medical Association) veterinary colleges or schools in the U.S. and Canada (1) is an administrative unit within the university's library system rather than the veterinary college. As reported by the VMLS (Veterinary Medical Libraries Section, Medical Library Association) in its most recent survey of veterinary libraries (2) the most common type of library, comprising over half of the total of 32, is a separate library serving primarily a college (or school) of veterinary medicine. A less common type is a separate library that serves two or more curricula, such as a medical college plus a veterinary college, or an agricultural college plus a veterinary college. Less common still is a veterinary college served by two libraries: a campus library plus a clinical library.

COLLECTION DEVELOPMENT STANDARDS

Standards established by the Veterinary Medical Libraries Section (VMLS) of the Medical Library Association directly address the library's collection in Standard #1 and refer to collections in most of the other standards as they apply to issues of professionalism, planning and resource allocation, space, and cooperation with other libraries (3). As indicated in these standards, veterinary collections include materials on the diagnosis, treatment, and prevention of animal diseases; zoonoses and public health; human-animal interactions; the practice of veterinary medicine; and the education of veterinary professionals. Standard #1 specifies that the collection supports the educational, clinical, and research programs of the veterinary medical institution, and that the library should collect information on veterinary medicine at the research level while related areas of biomedicine and clinical and animal sciences can be collected less comprehensively. Professional library staff will select, acquire, and withdraw materials with the aid of a written collection development policy, and they will evaluate the collection periodically. The VMLS standards touch upon collection development in other

parts of the document as well: a professional librarian with an ALA-approved master's degree or similar qualifications will be involved in the selection, acquisition, and organization of veterinary collections; the veterinary library needs to have a say in the allocation of financial resources in order to provide balanced collections and satisfy user needs; adequate space needs to be provided for the veterinary collection; and the library participates in cooperative programs, consortia, networks, etc. in order to supplement its own collections. While a standard does not carry the authority of a policy, a body of standards can serve a library as a useful gauge of its own performance and help it set goals for future performance.

COLLECTION DEVELOPMENT POLICIES

Dictionary for Library and Information Science defines a collection development policy as a "a formal written statement of the principles guiding a library's selection of materials…" (4). Richards and Eakin suggest the following basic elements or sections to include in a policy: introduction, definitions and responsibilities, selection criteria, subjects, formats, special policies (to cover donations, multiple copies, retention, preservation, collection evaluation, etc.), and special settings (audiovisual collections, archival/historical collections, reference collections, etc.) (5). Due to the Internet, many collection development policies are now readily accessible to a library's users and staff, as well as to other libraries and to anyone else who may be interested. At the national level the National Library of Medicine (NLM), National Agricultural Library (NAL), and Library of Congress (LC) have written a joint policy for veterinary science, describing the collection interests and users services of each library, and in the case of NLM and NAL, defining and comparing their collecting levels in 37 categories of veterinary science (6). In the process of writing their own collections policy, a library task force at Tulane University found numerous policies on the Internet. The task force discovered that the majority of these online policies focused on specific disciplines and were developed and maintained by the bibliographers assigned to that discipline (7). Iowa State University Library is one example of an academic library that makes its collection policies accessible via its Web site. ISU Library's concise overall policy addresses history, authority, selection, budgeting, formats, new technologies, scholarly communication and other general issues. This main policy page links to another page that in turn lists and links to about 75 specialized policies, most of which are subject policies that correspond with academic departments/colleges on campus; some others cover interdisciplinary subjects or programs, and there are a few other specialized polices for government publications, media, newspapers, and reference materials (8,9). Included is a link to a collection development policy for veterinary medicine, authored by the Veterinary Medical Reference and Collections Librarian. The veterinary medicine policy follows a common outline template for the subject policies. It includes information on the professional (DVM) and graduate programs of the College of Veterinary Medicine, general and specific collection guidelines, detailed subject areas covered, and resources available beyond the library (10).

In applying the selection criteria as outlined in a collections policy, (need and potential use, scope, content, quality, currency, audience level, price, etc.), Richards and Eakin cite ten selection principles; the top three in the list all relate to Use/Demand/Need:

1. It is the most important criterion used in making a selection decision
2. It need not always be satisfied by an item in the local collection (in reference to access vs. ownership)
3. The selection process weighs it against all other selection criteria (5)

Keeping the anticipated use of a book, journal or other item at the forefront of the selection process would appear to be a very commonsense and cost effective approach to collection building. The key to its success lies in the bibliographer's knowledge of the curricular, research, clinical, and other needs of a particular veterinary college, along with the needs of any other major user groups served by the veterinary library.

The veterinary library's collections policy, if kept up to date, can also be a great help in familiarizing a new librarian with collection goals and ideals. It can provide historical and organizational context; define sub-collections; and identify parameters and boundaries for subject areas, formats and types of materials, languages and audience levels. The policy also serves as a means of communication with its users. Having the policy online and readily accessible by anyone gives it the appearance (and hopefully, the reality) of a living document that is subject to ongoing discussion and revision.

LIBRARY USERS AND COLLECTION BUILDING

As indicated in the VMLS standards, selection of materials for the library's collection is a professional activity. (See Chapter 3 for the technical services aspects of acquiring materials that have been selected for the library's collection.) The selector or bibliographer often works with or invites input from many individuals in determining how to spend allocated funds for books, journals, and other library materials: veterinary college faculty, students, designated liaisons in the academic departments of the college, and the college's library committee, if there is one. If the selector is fortunate, at least some college faculty, researchers, clinicians, and educators will have a natural interest in the library's collection and offer frequent purchase recommendations for particular monographs and serial titles, or make suggestions for improvement in certain subject areas of the collection. Graduate and professional degree (DVM) students may also have useful recommendations based on their first-hand knowledge of the curriculum and their own perspectives of library strengths and weaknesses. All such purchase requests should be acknowledged as useful contributions to the selection process, regardless of whether the library can afford the item, or already owns it or has it on order. Each request is another piece of useful information that cumulatively and over time will give the selector a more complete picture of the needs of users and the overall strengths and weaknesses of the collection, than if he or she were "going it alone."

Although the students, faculty, researchers, clinicians, and staff of the veterinary college comprise the core users of the library, there are some additional user categories that will

to a greater or lesser extent influence the selection process and the overall makeup of the collection. University faculty, staff, and students outside the veterinary medical college sometimes use the veterinary library, but they are typically looking for precisely the veterinary and veterinary-related items that are not held in the university's main library or other branch facilities on campus, in other words, for items the veterinary library would be expected to already own. Or, these academic "outside" users may be searching for materials in interdisciplinary subject areas such as public health, zoonoses, bioterrorism, animal nutrition and reproduction, health and disease in wildlife and fisheries, biomedical engineering, etc. The selector will need to decide in each case if a recommended purchase is most appropriate for the veterinary library, or better passed on to another bibliographer in the university library system. (Of course, for those university libraries that serve curricula/colleges in addition to veterinary medicine, such as human medicine or agriculture, chances are greater that with their much broader scopes they will already own these interdisciplinary books, journals, and other materials.)

Among the non-university affiliated clientele of veterinary libraries, two relatively common user categories are veterinary practitioners and pet/animal owners. Practitioners are interested in up-to-date techniques, values, explanations, etc. that can be satisfied by current editions of the standard small- and large-animal clinical texts held by all veterinary libraries. However, the most recent editions of these are typically shelved in reserve collections with limited circulation, so these kinds of inquiries often turn into ones of ready reference, online search requests, interlibrary loan of articles or pages/chapters of books, or fee-based document delivery, rather than collection requests per se. Today there are many excellent free-access Web resources (Merck Veterinary Manual, Consultant, PubMed, etc.) as well as free, reasonably-priced, and membership-based services that cater specifically to veterinary professionals. A few examples of the latter are Veterinary Information Network (VIN), International Veterinary Information Service (IVIS), and AVMA Discussion Groups (American Veterinary Medical Association). As a result, veterinarians as a whole have become more self-reliant in their information seeking.

A second "non-affiliated" user category that has the potential to affect collection development in veterinary libraries is that of the pet/animal owner. Depending on a library's policy and its patrons' interest in this area, popular-level yet authoritative books and periodicals dealing with pet and animal diseases, health care, first aid, pet/livestock/poultry breed books, the human-animal bond and assorted other topics, can become a valuable and much-used part of the library collection. Some of these same titles may be requested by students and others in the veterinary college, who have dogs, cats, horses, birds, and other animals of their own, or they are looking for practical, understandable, and accurate books to read themselves, or to refer to their non-veterinary acquaintances. A large portion of these kinds of books are written by veterinarians or other veterinary professionals and most are quite inexpensive when compared to clinical or research-oriented texts, as little as one-tenth the price (11,12).

THE "TYPICAL" COLLECTION

It is difficult to come up with representative statistics for a "typical" veterinary library collection due to the several different types of libraries that serve the 32 U.S. and Canadian colleges of veterinary medicine. However, the "Collections" section of the 2000/2001 VMLS survey of veterinary libraries, the latest but now somewhat dated document, numbers for the reporting libraries in the Group 1 category show an average of slightly over 18,000 monographs held, over 14,000 journal volumes, 424 paid serial subscriptions, 102 additional serials received as gift or exchange titles, and 631 electronic serials (2). Group 1 is comprised of the separate (individual) libraries that serve primarily the colleges/schools of veterinary medicine, but not any other colleges or schools in the university. Survey reporting was not 100% as 4 of the 18 libraries did not submit data, and a few of the remaining 14 did not submit data in some categories. One might expect that a new survey would reflect changes caused by the continued shift to electronic journals, and the cancellations of at least some of the print counterparts of those same e-journals.

THE COMPONENTS OF COLLECTION DEVELOPMENT

The major components and characteristics of collection development will be discussed below, within the context of academic veterinary medical libraries: selection, handling gifts, deselection (weeding, withdrawals), physical facilities and shelf management, statistics, and preservation. Beyond a library's own collection, there are issues of resource sharing that involve interlibrary loan, document delivery, and cooperative collection development.

SELECTION

At the heart of collection development is the process of selection, that is, choosing the specific materials to add to the library collection. Decisions are based on the selector's overall grasp of the field of veterinary science and practice, the veterinary college and its operations, knowledge of veterinary publishers and sources, and specific purchase recommendations from college faculty, staff and students. While approval plans can ensure that the library will receive veterinary books from major publishers, a good deal of the professional and trade literature is widely scattered among small, specialized publishers or appears as meeting abstracts and papers from regional and local conferences, symposia, workshops, and professional organizations.

It is a safe bet that there will be a strong demand for veterinary titles from major, established sources such as CABI Publishing, Blackwell Publishing, and Elsevier, to name a few. And there will be considerable demand for veterinary titles from other U.S. and English-language publishers, simply because of the relevancy of the subject matter. Selecting materials for the collection becomes much more complex with non-veterinary subjects and topics that nevertheless relate in some way to the discipline. Some examples

are: human medicine and physiology, agriculture (especially animal science), zoology, microbiology, public health, food science, animal welfare and rights, wildlife and zoo management, among others. Again, this is where the selector's knowledge of the veterinary college's professional and graduate curricula, programs, research and teaching interests of faculty, clinical and laboratory testing services, etc. comes into play. This is especially true when operating with limited or declining acquisitions budgets, combined with the burden of steadily rising prices for monographs, serials, and other materials.

JOURNALS: ONLINE OR PRINT?

The major veterinary and veterinary-related journals are at or near the top of the library's collection in terms of their importance, frequency of use, and amount of money and time spent on them by libraries. As with all materials in the collection, it is important to distinguish between veterinary titles on the one hand, and on the other hand, all titles appropriate for and acquired by veterinary libraries. The latter category is considerably wider in scope; beyond veterinary science it encompasses subject areas such as human and comparative medicine, zoology, animal science, and human-animal relationships. Two central issues here, as with many areas of science and medicine, are (1) price inflation and (2) the pronounced shift in holdings from print to electronic format, which contains its own pricing and budget issues. "Journal for Academic Veterinary Medical Libraries: Price Increases, 1983-2001" is the latest in a long line of veterinary journal price study articles published in The Serials Librarian. This article found that the price index for the core list titles (approximately 80 titles deemed essential to the veterinary medical library) rose more than 423 points, an average increase of about 23 ½ % per year for the period from1983 to 2001 (13). Comparable increases were found for the adjunct core journals list (comprised of non-veterinary but valuable medical and science journals) and the abstract/index titles list. Other studies have confirmed the continued and significant rise in the prices of basic journals in the health sciences, independent of the rate of inflation (14). Veterinary libraries subscribe to many of these same health sciences titles, and they have not escaped their share of journal cancellation projects and restrictive serials and monographs budgets at the university level.

Few articles have been published that deal specifically with managing veterinary journal collections in academic libraries, nor with the acceptance of and switch from print to electronic journals by veterinary libraries and their users. A report of a 2001 survey of e-journal acceptance at Colorado State University details and compares responses of graduate students, faculty, and administrative professionals by college group (15). The survey, which included responses from the seven departments comprising the College of Veterinary Medicine and Biomedical Sciences, was conducted to determine degree of computer and Internet skills among respondents in using e-journals, the best mechanisms for accessing e-journals, relative preference of e-journals to print journals, and support for canceling print subscriptions duplicated by their e-journal equivalents. The results of the authors' survey (now about five years old) were consistent with their literature review which indicated a continuous increase in e-journal acceptance and use. The College of Veterinary Medicine respondents as a group were frequent users of e-journals and offered

some of the strongest support for canceling print subscriptions and retaining the electronic versions only.

The 2003 International Conference of Animal Health Information Specialists (ICAHIS) produced a paper that relates the experience of the Medical Sciences Library, Texas A&M University, in moving steadily towards an e-journal collection (16). The library serves a large veterinary college as well as medical college and several other professional and graduate medical programs. Analyzing historical and current data collected by the library on print journal use over several years, the library found sharp declines in patron use of print journals, even in those titles where there was no accessible online equivalent. The authors anticipated a continuing and accelerating trend from print to electronic access. Another paper presented at the same ICAHIS conference verified the substantial use and acceptance of e-journals at Washington State University Libraries, which was accompanied by a relatively small number of uses for some of the same veterinary journals in print (17). The Health Sciences Library at Washington State, like the Medical Sciences Library at Texas A&M, serves a veterinary college along with several other medical programs and units on campus. As suggested by the title of the paper, the focus here was on comparing the online with the print versions of 14 veterinary titles. The authors found that the online and print versions of the same journal are often not the same in format, content, organization, usability, or convenience, and online alone is simply not enough in some cases. A third paper from the same conference discussed the challenges of managing electronic resources, especially e-journals, in regards to access and control of access, personnel and workload, volatility in coverage by resource providers, and overlapping coverage by providers of some of the same veterinary and biomedical titles (18).

Some excellent recent “big picture” and case-study articles authored by medical and other academic librarians for the most part confirm the observations and experiences of veterinary librarians regarding: the rise of e-journals and corresponding precipitous decline in their print counterparts; reasons why faculty may still use print journals; budgeting, licensing, and other journal management issues; library access considerations for current and archival journals; and the challenges libraries face in dealing with their new positions as gateways to (as opposed to warehouses of) journal collections and other library materials (19-24).

MONOGRAPHS

Monographs remain an important component of veterinary medical library collections, especially the textbooks used in the professional (DVM) curriculum, as well as some veterinary research-level texts. The current editions of the textbooks, frequently in multiple copies, are often kept in the library’s reserve collection to ensure their ready availability. Many of these same texts see double duty by faculty, students, and librarians as ready reference for quick lookup of facts, standard values, procedures, etc. Most libraries still maintain at least a modest reference collection that consists of general and subject-related dictionaries, specialized one-volume encyclopedias, handbooks, manuals,

directories, and similar materials. Many other monographs on veterinary and related topics are selected for the library's main book collection, primarily according to the research, curricular, and general needs and interests of college faculty, staff, and students. As with most other subject disciplines, the development of e-books has moved at a much slower pace than that of e-journals. There would seem to be real potential for veterinary textbooks used in the professional curriculum, as well as veterinary reference books, installed in laptop, tablet and handheld devices, as a variety of new computer technologies become commonplace in classroom and clinical settings. Some veterinary-related books have been offered by publishers for several years in CD-ROM/DVD formats, and online from e-book vendors netLibrary, ebrary, and others. There are some excellent full-text, free-access books on the Web as well: The Merck Veterinary Manual (25) from Merck & Co., Inc., and recent titles published by the National Academies Press include Critical Needs for Research in Veterinary Science (26), Diagnosis and Control of Johne's Disease (27), Nutrient Requirements of Dairy Cattle (28), and numerous other veterinary-related and biomedical books. At present printed books are much better suited for reading cover-to-cover, but e-books offer ready access, capability of keyword text searches, and convenience of printing selected pages of text, tables, charts, drawings, and photographs.

PROCEEDINGS

In addition to journals and books, conference proceedings constitute a third type of material of considerable interest to veterinary librarians and library users. Some veterinary proceedings literature is readily available and routinely indexed by bibliographic databases such as CAB Abstracts, BIOSIS, ISI Proceedings, and AGRICOLA. A Web source that specializes in citing this publication type is the veterinary conference proceedings database operated by Jean-Paul Jetté, University of Montreal (29). Jettè's site provides tables of contents for veterinary-related conferences and in some cases links to the free, full-text papers. Conferences, meetings and seminars held by highly specialized veterinary societies or other smaller organizations at the regional, state, and local level may be more difficult to verify and obtain, up to the point where they can truly be labeled "grey" literature.

GREY LITERATURE

Williams and Croft in 1997 discussed some of the challenges of dealing with the grey literature of veterinary medicine (30). They named some of the features of grey publications as lack of adequate bibliographic identifiers, small print stock with limited distribution, and not widely acquired. The authors identified publication types that can fall into this "grey" category: conference papers, workshop syllabi, society publications, newsletters, reports, working papers, standards, theses, and government documents. They noted some of the characteristics of grey publications: they provide practical solutions to real problems, summarize knowledge for busy decision makers, communicate new developments and experimental approaches, and they are fast. Such

materials are useful to veterinary students, faculty, and practitioners for these very reasons. The authors offer some helpful suggestions to veterinary librarians: make it your responsibility to identify and acquire grey literature for your geographic area, catalog the literature for your library, and cooperate with your fellow librarians in identifying, obtaining and loaning these materials. An article by Pelzer and Wiese analyzed over 2,000 articles published in 12 core veterinary journals in 2000, and determined slightly over 6 percent of the citations from these articles to be grey literature, the majority of it appearing as conferences, government publications, and corporate organization literature (31). They concluded that the shifting of information resources to the Internet was likely to result in less grey literature over time. This does not, however, relieve the librarian of the responsibility of identifying and procuring the hard-to-find items that may in fact be of considerable interest and value to the users of his or her particular library. In many cases the veterinary college's faculty, researchers, and students can help in this process by bringing grey, or potentially grey publications to the attention of the library, and/or by donating substantive materials obtained from their attendance at some of the smaller, local, regional and less-publicized meetings, seminars, and workshops.

AUDIOVISUALS/MEDIA

Selection of materials such as videocassettes, audiotapes, slides, DVDs, CDs, CD-ROMs, computer software, etc. is usually the responsibility of the veterinary library and/or a biomedical communications department or similar office within the veterinary college. The Survey of Veterinary Medical Libraries in the U.S. and Canada 2000/2001 (2) shows a number of libraries in Groups 1, 2, and 3 were collecting both audiovisual and software items, with an average of over 2,400 audiovisual programs held by the Group 1 libraries. However, this mean number is skewed upwards by one library's very large collection, and several libraries did not report this item. The Group 1 libraries in the same survey reported an average of 29 software titles. Several libraries likewise did not report in the software category. Some of these same materials or similar resources may now be available directly from the Web. Most veterinary medical libraries will link to at least some of these sites from their own Web pages.

WHAT IS A "VETERINARY COLLECTION"?

When discussing a "veterinary collection" it is important to keep in mind that there are at least two definitions of this term. The narrower definition relates strictly to the subject matter of veterinary science and medicine. This is primarily the material contained in the Library of Congress subclass SF, specifically SF600 – SF1100, Veterinary Medicine: veterinary anatomy, physiology, embryology, pathology, microbiology, epidemiology, parasitology, surgery, and pharmacology; communicable diseases of animals; veterinary medicine of special organs, regions and systems; etc.

A second, much broader definition of veterinary collections includes all materials that are obtained and managed by a library that serves a veterinary medical school or college, in

other words, all materials of interest and use to the students, faculty, staff, and researchers of a particular veterinary college, and possibly to non-college users as well: students and faculty from other colleges and programs at the university; veterinary practitioners, clinics, researchers, and those individuals who own or are interested in the care, health and diseases of pets and animals. This broader definition fully serves the curricular and research needs of the veterinary school and goes beyond those needs to serve other user groups outside the college. Subject-wise, in addition to the veterinary sciences it encompasses human and comparative medicine; animal science (livestock and poultry production); zoology; the human-animal relationship; animal welfare and animal rights; bioengineering; bioterrorism; managing a veterinary practice; or whatever additional topics may be needed or wanted by the full range of users of a specific veterinary library. At the popular level that may include books on pet care, dog and cat breeds, and raising horses, livestock, and poultry, and many other topics.

SELECTION AIDS AND RESOURCES

Veterinary librarians typically rely on a wide variety of selection aids, from conventional approval plans to book reviews and ads to recommendations from users. Much desirable material won't be covered by approval or blanket order plans because it is highly specialized, comes from small publishers or in some cases is self-published, and meetings and conferences may be local or regional in nature, rather than national or international. Moreover, only a handful of the larger, mainstream publishers included in approval plans, such as Elsevier, Blackwell, and CABI Publishing are prime sources for veterinary materials, and even these may each release only ten or twenty titles or fewer in a given year, due to the specialized subject matter and its limited audience. While there are steady amounts of academic biomedical/life science/zoology/agricultural titles coming on the market regularly from major publishers, the veterinary bibliographer with a modest budget needs to sift through these carefully and choose only those most appropriate for the veterinary library's collection. He or she needs a good grasp of the veterinary college's professional (DVM degree) and graduate curricula, and of its clinical and research interests, programs, and specialties. In addition, the general and specific requests of faculty, researchers, administrators, students and others can be invaluable in collection building, and should be routinely solicited and encouraged. This includes serials as well as monographs; even if there are no funds available in the budget for new journals; an ongoing knowledge of titles that faculty want and need is very important so these titles will be ready for purchase if and when new funds become available. Fellow librarians often share their discoveries or make recommendations of new, forthcoming or older titles, including their own critical evaluations. They may also routinely send out lists of duplicate books, conference proceedings, journal issues, or other items not needed by their libraries, to offer to libraries with similar collection interests. VETLIB-L (32) a mail list for veterinary librarians worldwide, is frequently used for these purposes. Tips from fellow librarians regarding elusive meetings, symposia, reports, training manuals, self-published and other "grey" literature are especially welcome.

Besides the bibliographer's own knowledge and the expert advice received from others, there is a wide variety of selection resources to facilitate collection development. Detailed descriptions of in-print, new, and forthcoming titles are readily available from publishers' catalogs, Web sites, and e-mail promotions and newsletters. Book reviews in veterinary journals, while not particularly timely for new releases, can provide the expert, critical viewpoint missing from publishers' blurbs. A quick picture of titles available on a particular topic or by a certain author can be found in Books in Print and Medical and Healthcare Books and Serials in Print. There are numerous Web sites that list, describe, and sell new, used, out-of-print, and rare books and other publications. Amazon.com, Alibris, and other large sites offer a variety of veterinary academic and popular titles, old and new.

WorldCat (OCLC), RedLightGreen (Research Libraries Group), Library of Congress Online Catalog, British Library Integrated Catalogue, CISTI Catalogue (Canada Institute for Scientific and Technical Information), NAL Catalog (AGRICOLA, National Agricultural Library), and NLM Catalog (National Library of Medicine) are good examples of online catalogs that can be used to identify old and new publications of all types and formats. Also, there are the holdings catalogs of the academic libraries serving the 32 U.S. and Canadian colleges of veterinary medicine. Many of these catalogs contain the holdings of the entire library system, but it may be possible to restrict catalog searches to the veterinary library as a location, and even further to a specific collection, such as reference or reserve, within location. All of the above catalog examples except WorldCat (OCLC) are freely accessible to all via the World Wide Web.

Identifying core monograph and serial titles for veterinary collection building or checking an existing collection can be done by consulting a list of standard and classic texts. Although now somewhat dated, Keyguide to Information Sources in Veterinary Medicine (33) and The Literature of Animal Science and Health (34) can still be very useful, as can the more recent Using the Agricultural, Environmental, and Food Literature(35). The latter title includes a lengthy and detailed chapter on animal health and veterinary sciences written by Gretchen Stephens, Veterinary Medical Librarian, Purdue University. An excellent source for only the best of current, basic medical (but non-veterinary) texts as well as core medical journals was the Brandon/Hill list which originally appeared in 1965 and was regularly updated over a span of 36 years in the Bulletin of the Medical Library Association (36). Hundreds of core medical books and well over 100 core journals were grouped into dozens of subject categories. The Brandon/Hill lists were popular with veterinary librarians as a selection tool for essential, non-veterinary medical titles. The lists were officially discontinued in 2004 (37) and replaced later that same year by a modestly priced, Web-based annual from Doody Enterprises, Chicago, titled Doody's Core Titles in the Health Sciences (38). Meanwhile, a veterinary librarian at the University of Saskatchewan, Jill Crawley-Low, was compiling her own much-welcomed, Brandon/Hill-style list of in-print, English language veterinary medical books recommended for academic libraries (39). More than 400 titles are identified, with prices, and arranged by subject. Crawley-Low's bibliography is intended as an acquisitions and evaluation tool for veterinary medicine collections, and updates are planned. Although not comprehensive, it is a carefully considered selection of the core veterinary books of

today. A free-access Web version is searchable by keyword, author, title, publisher, and subject category (40).

GIFTS

Veterinary libraries will frequently be offered gifts, which are yet another means of expanding and enriching the collection. Gift offers come from the veterinary college's alumni, faculty, staff, and students, and also from sources outside the college. Gifts may take the form of money or materials (monographs, serials, audiovisual items, etc.). The veterinary librarian will be directly involved in evaluating, selecting, and adding gift books and journals and similar items to the library's working collection. However, this librarian at times may also become the initial point of contact for inquiries regarding rare and valuable books, personal papers, or money gifts/endowments. As such, a "front line" librarian needs to be alert to these opportunities that are above and beyond the immediate needs and interests of the veterinary library. This librarian may need to connect a potential donor to someone in the university archives, the university library's special collections department, or the development officer of either the veterinary college or university library.

College faculty, staff, and alumni can be especially fertile sources of the many veterinary-related proceedings, symposium/workshop materials, reports, booklets, self-published materials, and other materials that are simply not available through regular library acquisition channels. What the library usually does not need, but is nevertheless frequently offered, are the outdated, well-worn, marked-up, stained, torn, and sometimes musty standard veterinary textbooks which it already possesses in multiple copies and editions. As a practical matter, however, it may be more efficient and considerate to graciously accept a large box of donated materials of dubious value, and sort through it later in search of the few potential items that could enhance the library's collection. In the case of larger offers, the librarian may want to request in advance a written list of items from a potential donor, to avoid receipt of hundreds of unwanted books and journals. If it is evident that the offered materials are not appropriate for the library's collection due to subject matter, format, age, condition, duplication, etc., a donor will still appreciate suggestions of alternatives from the librarian regarding other libraries, institutions, offices, or donation programs that might show an interest, especially local sources. An excellent and well-maintained Web site that lists, describes and links to numerous book donation programs worldwide, is maintained by the Health Sciences Library, University at Buffalo, The State University of New York (41).

Except for smaller donations given anonymously, there ought to be a written agreement between library and donor. The document can be as simple as a short, standardized form signed by the donor, to serve as a written record of the transaction for both parties. For larger and more elaborate gifts, a more detailed contract may be necessary. A recent article from the library journal Collection Building provides sound basic information on handling gifts in academic libraries. The article reminds us that no gift is free; the price of a "free" gift may add up to about $45 per item, including library labor and processing costs (42). Most veterinary librarians would probably agree that this price would be a bargain in today's market, for a slightly used text or a like-new review copy donated by a

faculty member, that may list at $100, $150 or more; for that missing volume of an otherwise complete journal run; or for some relatively rare and obscure item whose existence was not even known by the librarian prior to its receipt from the donor.

DESELECTION

Deselection, or weeding, is the opposite of (and counterbalance to) selection. While this is not most librarians' favorite activity, lack of physical space for a growing physical collection has in the past necessitated occasional, if not regular weeding projects. Besides the creation of new shelf space, other reasons are: identification and repair (or replacement) of volumes in poor physical condition; removal of duplicate copies and older/outdated titles; and removal of volumes that are simply not being used, based upon circulation numbers which are possibly supplemented by manual reshelving counts. Side benefits for the librarian include increased familiarity with the present state of the collection, as well as identification of specific titles and subject areas that need to be replaced or supplemented by newer editions or similar works. A recent JMLA article describes a comprehensive, long-overdue weeding project conducted by Briscoe Library, University of Texas Health Science Center at San Antonio. The project resulted the withdrawal of over 11,000 books and audiovisuals that represented nearly 10% of the library's collections in these two formats (43). The article's author cautions that a major project such as this one requires a great deal of staff time, which is easy to underestimate. Besides opening up shelf space for future collection growth, the author anticipated that circulation would increase because the newer materials on the shelf would now be more visible to users. Weeding does not always result in withdrawal; some cases may warrant transfer of an item to another library in the university system, or to a remote storage facility.

Depending on the eventual degree of acceptance of e-books by library users, some portion of print titles may eventually be replaced by their electronic counterparts, and new e-versions may be selected instead of print. In the near future, however, print journal volumes have a much greater potential for clearance of needed shelf space. Journal use statistics that were once gathered and reported for print journals (44) now are being used to lend support for purchase of more e-journals with a corresponding cancellation of print titles (16,23-24). Once a decision is made to cancel the print copy, it is only a matter of time until those volumes now duplicated by the new electronic subscription will be transferred to a facility in the library system with more shelf room, if not withdrawn outright. This shifting/removal/withdrawal is further accelerated by the availability of more archival online choices. Major journal publishers such as Elsevier, Springer, and Wiley are now making hundreds of individual titles available online back to their inception, and are offering large archival/backfile collections of online journals to libraries in "package deals." The titles are often grouped into broad subject categories that include biomedical, agricultural, biological, and even veterinary themes. For example, as a result of the University of Arizona Libraries obtaining the complete Elsevier ScienceDirect backfiles during 2002-03, the Science-Engineering Library was able to withdraw thousands of print volumes, after first checking the e-journal versions

for missing content, poor image quality, and other problems. The Science-Engineering Library also withdrew print indexes that were now available online, and created an information commons in their newly freed-up space (45).

In addition to the scores of e-journals and databases offered by libraries to their users, hundreds if not thousands of quality serial publications, including research journals, are offered free to all via the World Wide Web. Free online access from a publisher may apply to older issues only, but sometimes includes recent and current issues as well. The question inevitably arises regarding the remaining usefulness to the library (and its primary clientele) of the thousands of neglected, dusty print volumes and issues being replace by popular online versions, now sitting untouched on rows of library shelves, occupying valuable library space. It is not difficult to imagine a time in the not-too-distant future when print volumes will require half or less of the space they occupy presently in a "typical" veterinary medical library. This new open space could be turned into more study areas for students, a meeting room added, some small group rooms constructed. Or perhaps an inviting browsing area for new books, journals, magazines and newsletters not likely to soon appear in electronic form, or are more amenable to browsing and using in person rather than online. If nothing else, a more attractive and user-friendly collection could be created by removing high, long, packed shelves; narrow aisles, and tight corners. At the other extreme, small libraries with very modest square footage could use the newly found space to bring in longer runs of print-only journals and magazines that are still in demand by the veterinary college; for example, they could decide to expand shelf retention of a popular veterinary or biomedical serial from the latest 5 years to the latest 20 years. Opportunities for library reorganization and redesign of a veterinary library should be similar to those for the university's main library, except on a smaller scale.

PRESERVATION

Preservation may be a viable alternative to withdrawal or replacement of old or damaged materials that are judged to still add value to the collection. As a branch of the university library system, most of a veterinary medical library's needed in-house preservation work may be the responsibility of a preservation department or office. A general, overall plan or program that considers environmental factors and potential hazards such as light, temperature, humidity, fires, smoke, flooding, etc., is likely already in place for the entire library system. A recent article from Journal of Agricultural and Food Information describes the development of a plan at the University of Tennessee's Webster Pendergrass Agriculture and Veterinary Medicine Library. A preservation action plan and timetable was developed in which the goals of Pendergrass Library were prioritized within the larger University of Tennessee Libraries' plan. Plans tailored specifically for Pendergrass Library included a collections conditions survey, staff and user education, an anti-food campaign, a sprinkler system, and digital reformatting (46). Digitizing library materials can be yet one more path to preservation; applications for veterinary libraries could include Masters and PhD theses completed by students of the veterinary college;

publications of the college, its students and alumni; and a variety of other materials of veterinary, historical, and local interest.

COOPERATIVE COLLECTION DEVELOPMENT

Richards and Eakin define cooperative collection development in their book as an agreement between two or more libraries to coordinate their collection building activities in some way; reasons for cooperating include:

> More effective use of existing materials budgets
> Coordinating cancellation, storage, or preservation projects
> Establishing primary collection responsibilities for specific subjects and formats
> Acquisition of collective site licenses for databases of common interest (5)

Such cooperation could occur formally or informally between the veterinary (branch) library and the university (parent) library, between/among university libraries (which could result in involvement by veterinary libraries as parts of their respective university libraries), or between veterinary libraries directly. The nature of cooperation between veterinary libraries can be as simple as offering and/or requesting from each other specific books, proceedings, issues/volumes of journals or other serials; sharing bibliographic and acquisition information on new or out-of-the-ordinary veterinary publications including grey literature; and recommending specific titles or "hot" topics for collection. Moving from ownership to access, veterinary librarians may facilitate interlibrary loan and document delivery between libraries. In fact, the mailing list VETLIB-L (32) serves as a communications channel to a group of veterinary librarians worldwide for all of these collections activities.

The Veterinary Medical Libraries Section (VMLS) (47) within the Medical Library Association is another important source for discussion and cooperation in collection building. VMLS communicates with CABI Publishing (48) and other publishers and vendors of veterinary materials, regarding products offered (books, journals, databases), their content, available formats, ease of use, potential or actual value to library clientele, pricing issues, etc. VMLS Standard #6 encourages library participation in cooperative programs with other libraries, consortia, networks, vendors, and agencies (3). Many cooperative programs deal with collections in particular.

The kinds of cooperation referred to above are important for reasons of economics and library quality. To remain effective and relevant to its users into the foreseeable future, an academic veterinary library will also have to keep in close touch with its primary users' needs, and the plans and goals of the veterinary college its constituents. The library will need to find proper balances among print, electronic, and other format types; between in-library resources and those offered remotely; between library ownership of and access to materials; and maintain quality collections with limited budgets.

NOTES

1. American Veterinary Medical Association, *Career and School Information: Veterinary Colleges Accredited by the AVMA* (2006). http://www.avma.org/education/cvea/colleges_accredited/allcolleges.asp (accessed January 19, 2006).

2. Veterinary Medical Libraries Section of the Medical Library Association, *Survey of Veterinary Medical Libraries in the United States and Canada 2000/2001* (May, 2002). http://www.lib.vt.edu/services/branches/vetmed/VMLS/2000-2001%20Survey%20Results.pdf (accessed January 19, 2006).

3. Sarah Anne Murphy, Martha A. Bedard, Jill Crawley-Low, Diane Fagen, and Jean-Paul Jette, Standards Committee, Veterinary Medical Libraries Section, Medical Library Association, "Standards for the Academic Veterinary Medical Library," *Journal of the Medical Library Association* 93 (2005): 130-32.

4. Joan M. Reitz, *Dictionary for Library and Information Science* (Westport, CT: Libraries Unlimited, 2004). Also available online as: *ODLIS: Online Dictionary for Library and Information Science*. http://lu.com/odlis

5. Daniel T. Richards and Dottie Eakin, *Collection Development and Assessment in Health Sciences Libraries* (Lanham, MD: Scarecrow Press, 1997), 55-67.

6. National Library of Medicine, National Agricultural Library, and Library of Congress, *Joint Collection Development Policy: Veterinary Science and Related Subjects*, March 6, 1996. http://www.nlm.nih.gov/pubs/cd_vet_sci.html Also available at: http://www.nal.usda.gov/acq/cdvetsci.htm (sites accessed March 15, 2006).

7. Andy Corrigan, "The Collection Policy Reborn: A Practical Application of Web-Based Documentation," *Collection Building* 24, no. 2 (2005): 65-69.

8. Iowa State University Library, *Collection Development Policy*, September 2001. http://www.lib.iastate.edu/collections/colloff/cdpolicy.html (accessed March 17, 2006).

9. Iowa State University Library, *Iowa State University Library Subject-Based Collection Development Policies*. http://www.lib.iastate.edu/collections/colloff/subject_cd_policies.html (accessed March 17, 2006).

10. Iowa State University Library, *Collection Development Policy, Veterinary Medicine*. Creation date June 2000. http://www.lib.iastate.edu/intranet/psc/colldev_man/cdpolicy_vet.pdf (accessed March 17, 2006).

11. William H. Wiese, "Veterinary Guides for Livestock and Poultry Owners," *Journal of Agricultural and Food Information* 6, no. 2/3 (2004): 65-91.

12. Sarah Anne Murphy, "Consumer Health Information for Pet Owners," *Journal of the Medical Library Association* 94 (2006):152-58.

13. Victoria T. Kok and Eleanor P. Garrison, "Journals for Academic Veterinary Medical Libraries: Price Increases, 1983-2001," *The Serials Librarian* 43, no. 1 (2002): 31-43.

14. Dorothy R. Hill and Henry N. Stickell, "Brandon/Hill Selected List of Print Books and Journals for the Small Medical Library," *Bulletin of the Medical Library Association* 92 (2004): 307-14.

15. Donnice Cochenour and Tom Moothart, "E-journal Acceptance at Colorado State University: A Case Study," *Serials Review* 29, no. 1 (2003): 16-25.

16. Esther Carrigan and Nancy Burford, "The Road to an Electronic Journal Collection: Using Data to Pave the Way," in *Proceedings, 4th International Conference of Animal Health Information Specialists*, 6-9 August 2003, Budapest. http://library.univet.hu/icahis/proc/kcarrig.pdf (accessed February 1, 2006).

17. Vicki F. Croft, Sarah K. McCord, and Zinthia C. Briceño-Rosales, "When is Online Not Enough? A Comparison of the Print and Online Versions of 14 Veterinary Journals from 13 Different Vendors/Publishers," in *Proceedings, 4th International Conference of Animal Health Information Specialists*, 6-9 August 2003, Budapest. http://library.univet.hu/icahis/proc/kcroft.pdf (accessed February 2, 2006).

18. E. Alan Armstrong, Vicki F. Croft, Victoria T. Kok, and Edward F. Lener, "Electronic Resources Access: Issues and Resolutions in Two Academic Libraries," in *Proceedings, 4th International Conference of Animal Health Information Specialists*, 6-9 August, 2003, Budapest. http://library.univet.hu/icahis/proc/kkok.pdf (accessed February 2, 2006).

19. Julie M. Hurd and Ann C. Weller, "Evolving Electronic Journals: Accomplishments and Challenges," *Journal of Electronic Resources in Medical Libraries* 1, no. 1 (2004): 31-49.

20. Carol Tenopir, Donald W. King, and Amy Bush, "Medical Faculty's Use of Print and Electronic Journals: Changes Over Time and in Comparison with Scientists," *Journal of the Medical Library Association* 92 (2004): 233-41.

21. Ives, Gary, "Transition to E-Journals at Texas A&M University, 1995-2004," *The Serials Librarian* 47, no. 4 (2005): 71-78.

22. Patricia B. Serotkin, Patricia I. Fitzgerald, and Sandra A. Balough, "If We Build It, Will They Come? Electronic Journals Acceptance and Usage Patterns," *portal: Libraries and the Academy*, 5 (2005): 497-512.

23. Suzetta Burrows, "A Review of Electronic Journal Acquisition, Management, and Use in Health Sciences Libraries," *Journal of the Medical Library Association* 94 (2006): 67-74.

24. Karen Thompson Rosati, "The Decline of Print: Ten Years of Print Serial Use in a Small Academic Medical Library," *The Acquisitions Librarian* 18, no. 35/36 (2006): 107-17.

25. *The Merck Veterinary Manual*, 9th Edition Online, Merck & Co., Inc., 2006. http://www.merckvetmanual.com/mvm/index.jsp (accessed February 24, 2006).

26. Committee on the National Needs for Research in Veterinary Science, National Research Council, *Critical Needs for Research in Veterinary Science*, The National Academies Press, 2005. http://books.nap.edu/catalog/11366.html (accessed February 6, 2006).

27. Committee on Diagnosis and Control of Johne's Disease, National Research Council, *Diagnosis and Control of Johne's Disease*, The National Academies Press, 2003. http://www.nap.edu/catalog/10625.html (accessed February 6, 2006).

28. Subcommittee on Dairy Cattle Nutrition, Committee on Animal Nutrition, National Research Council, *Nutrient Requirements of Dairy Cattle: Seventh Revised Edition, 2001*, The National Academies Press, 2001. http://www.nap.edu/catalog/9825.html (accessed February 6, 2006).

29. Jean-Paul Jetté, *Bibliothèque de Médecine vétérinaire*, Direction des bibliothèques, Université de Montrèal. http://www.medvet.umontreal.ca/biblio/conf.htm (accessed February 6, 2006).

30. Mitsuko Williams and Vicki F. Croft, "Managing the Grey Literature in Veterinary Medicine: Challenges and Opportunities," in *Proceedings, 2nd International Conference of Animal Health Information Specialists, Structuring and Sharing, Global and* Local, July 1-4, 1997, The Danish Veterinary and Agricultural Library, Frederiksberg, Denmark, 1998.

31. Nancy L. Pelzer and William H. Wiese, "Bibliometric Study of Grey Literature in Core Veterinary Medical Journals," *Journal of the Medical Library Association* 91 (2003): 434-41.

32. VETLIB-L mailing list. VETLIB-L@LISTSERV.VT.EDU
Veterinary Medicine Library issues and information.

33. Mike Gibb, *Keyguide to Information Sources in Veterinary Medicine* (New York: Mansell Pub., 1990).

34. Wallace C. Olsen, ed., *The Literature of Animal Science and Health* (Ithaca, NY: Cornell University Press, 1993).

35. Barbara S. Hutchinson and Antoinette Paris Greider, eds., *Using the Agricultural, Environmental, and Food Literature* (New York: Marcel Dekker, 2002).

36. Dorothy R. Hill and Henry N. Stickell, "Brandon/Hill Selected List of Print Books and Journals for the Small Medical Library," *Bulletin of the Medical Library Association* 89 (2001): 131-53.

37. "Brandon/Hill Lists Discontinued," *MLA News* 368 (August 2004): 4.

38. James Shedlock and Linda J. Walton, "Developing a Virtual Community for Health Sciences Library Book Selection: Doody's Core Titles," *Journal of the Medical Library Association* 94 (2006): 61-66.

39. Jill Crawley-Low, "Veterinary Medicine Books Recommended for Academic Libraries," *Journal of the Medical Library Association* 92 (2004): 473-88.

40. Jill Crawley-Low, *Veterinary Medicine Bibliography*, University of Saskatchewan Library. http://library.usask.ca/vetmed/vetmedbib/ (accessed February 24, 2006).

41. Health Sciences Library, University at Buffalo, *Donation Programs for Books, Journals and Media*. http://ublib.buffalo.edu/libraries/units/hsl/donationprograms.html (accessed March 6, 2006).

42. Tinker Massey, "Management of Gift Materials in an Academic Library," *Collection Building* 24, no. 3 (2005): 80-82.

43. Rajia C. Tobia, "Comprehensive Weeding of an Academic Health Sciences Collection: the Briscoe Library Experience," *Journal of the Medical Library Association* 90 (2002): 94-98.

44. Robert J. Veenstra, "A One-Year Journal Use Study in a Veterinary Medical Library," *Journal of the American Veterinary Medical Association* 190 (1987): 623-26.

45. Marianne Stowell Bracke and Jim Martin, "Developing Criteria for the Withdrawal of Print Content Available Online," *Collection Building* 24, no. 2 (2005): 61-64.

46. Margaret Mellinger and Mary Ellen Starmer, “Preservation in an Agriculture Library: Balancing Best Practices with Practical Considerations,” *Journal of Agricultural and Food Information* 4, no. 3 (2002): 51-59.

47. Veterinary Medical Libraries Section, Medical Library Association, *Veterinary Medical Libraries Section*. http://www.lib.vt.edu/services/branches/vetmed/VMLS/VMLS.htm (accessed March 14, 2006).

48. CABI Publishing, CAB International, *CABI Publishing*. http://www.cabi-publishing.org/ (accessed March 14, 2006).

CHAPTER 3

ALL ABOUT ACCESS
(Technical Services Resource Management)

Many good books and articles are available that address current materials acquisition and processing practices in technical services departments of libraries. *Bibliographic Management of Information Resources in Health Sciences Libraries* (1) is a good place to find basic information about the functions within technical services units. Technical services departments in academic libraries are typically comprised of acquisitions, copy cataloging, original cataloging, database maintenance, and may also include preservation and binding of materials to be shelved in the library's collection. Most veterinary medical libraries (VMLs) do not have technical services staff on site, but rather utilize centralized technical services at their institution's main library or health sciences library for acquiring and providing access to veterinary materials. Every few years the Veterinary Medical Libraries Section of the Medical Library Association conducts a survey of the libraries serving the 32 U.S. and Canadian veterinary colleges that are accredited by the American Veterinary Medical Association. The 2000/2001 survey (the most recent available) offers a snapshot of some of the technical services functions utilized by these libraries. Of the 22 libraries that reported data about cataloging functions in their library, 10 have cataloging done by some other library at their university, and 4 share the responsibility with another library. All but one of these libraries also reported having OPAC maintenance done by someone in the other library. Three other libraries share cataloging responsibility and OPAC maintenance with another library, and 1 VML catalogs its own materials, including database maintenance. Therefore, materials, for the most part arrive at these libraries and collections "shelf-ready."

ACQUIRING MATERIALS

Acquisitions departments of academic libraries typically acquire materials in all formats and languages, although in the U.S. and Canada, the predominant language is English. This process includes searching for, ordering, payment, receipt and processing of monographs, serials, non-book material, and electronic resources. In today's libraries, most of these activities are computerized. The physical processing of materials may be divided into specialty units such as Ordering, Receiving, and Gifts. Receiving and paying for all materials includes access to electronic resources, some of which are leased, not owned and, therefore, require licensing. Purchased electronic journals must include licensing agreements that include continued, long-term access. In many academic libraries, serial and non-serial materials are ordered and cataloged by separate units due to the unique characteristics of each.

For reasons of efficiency and economy, most academic libraries use automated vendor services to acquire monographic materials. Purchases requested by veterinary subject specialists may be made through several routes: firm orders, approval plans, and standing orders. Using vendor services reduces the time spent in the selection of titles, thus

enabling subject specialists to provide patrons with other kinds of support. Some orders are made outside this vendor process, using direct calls to small publishers, individuals or organizations. Traditionally, VMLs have collected print materials, and audiovisual or other non-print materials, such as instructional videotapes, sound recordings, slides, software, but, more recently, this also includes electronic formats such as CD-ROMS, electronic journals and citation databases. A fundamental change in the 1990s saw the incorporation of copy cataloging into the acquisitions receipt and approval process. Vendor services such as OCLC's PromptCat copy cataloging service, and vendors such as Yankee Book Peddler Library Services, Blackwell, and Harrassowitz, are an example of this popular option that combines receipt of material and downloading of bibliographic records into the local online catalog in one streamlined operation. For the Iowa State University Library, its vendor, Yankee Book Peddler, sends about 8,000 approval books per year (including some veterinary titles), 75% of which come with Library of Congress (LC) catalog records as part of OCLC PromptCat. These books come prepared for immediate shelving with call number labels, barcodes, ownership stamps, and tattletape. Acquisitions staff briefly reviews the cataloging, and accepts about 95% of the records.

Acquisitions departments typically receive and process serials issues in all formats, manage serials subscriptions and serials exchanges, claim for unsent or missing materials, initiate electronic resources licenses and may provide links to these resources, mark and prepare print serials for binding. Serials (also called by other terms such as journals, periodicals, or magazines) are issued in successive parts (with no planned end in sight), typically on a weekly, monthly, or yearly basis, so this means a continuous process of receiving, renewing, tracking through check-in, marking and shelving.

As with monographic materials, cost and efficiency dictate the use of vendors for the vast majority of serial purchases by many academic libraries. Veterinary subject specialists are instrumental in choosing appropriate serial titles for their clientele through such vendors as Blackwell Periodical Division, EBSCO Subscription Services, Otto Harrassowitz and Swets Information Services. The development of electronic journal publishing in the 1990's gave rise to commercial intermediary services, such as SwetsnetNavigator, EBSCO Online, Ingenta, and Serials Solutions to provide e-serial access and management and aggregator services, such as EBSCOHost EJS. These and other services offer comprehensive access to thousands of journals, including those in and peripheral to veterinary medicine. Blansit and Connor sum it up well, "Although many electronic journals correspond to their print counterparts, some republishers add value to electronic versions by including enhanced graphics, audio, video, breaking news, chat rooms, and related links" (2). A curious "side effect" of not being able to select only certain journals from each service, results in unavoidable overlapping of coverage of the same title by multiple vendors as illustrated by Iowa State University's subscription to *The Journal of Animal Ecology*, which is received through Blackwell Synergy online service, Ingenta, and JSTOR.

Other methods used to identify and acquire vet resources may include specific requests from veterinary (or other) faculty, staff and students, donated items, perusing publisher catalogs, and tips emanating from librarians or librarian list servs.

BIBLIOGRAPHIC CONTROL OF MATERIALS

"For the reference librarian to do a proper job, the cataloger must first organize these resources to make them accessible." (1)

After materials for the library have been selected, ordered and received, access needs to be provided to them. Cataloging (bibliographic control) provides description and access information that appears in the library catalog. The purpose of a catalog is to provide access to works based on known details and to identify which documents in the database cover a given author or topic. Three elements make up the online public access catalog (OPAC) found in academic libraries today: bibliographic database, search engine, and user interface. As of now, the OPAC is still the principal finding tool for a library's collection. In many academic libraries it is a component of an integrated library system that includes portals and gateways to remote digital resources and to Internet access. The OPACs of all the U.S. and Canadian VMLs are available via the World Wide Web. Commonly, the VML shares the same online catalog with other library units on campus. One exception is the Texas A&M University Medical Sciences Library, which offers its own online catalog called "Chiron."

Web-based catalogs continue to be built using traditional cataloging rules (although, at this time, changes are being considered). Certainly, necessary access points for a bibliographic item must be determined; however, in the electronic environment, searchers don't need to be concerned with main or added entry, for example, but merely with authorship. Expanded bibliographic records may incorporate table of contents and summary notes with unique natural language words to enhance subject access via keyword searching in online catalogs. This eliminates much of the need to create analytical cataloging, which is of such importance to users in university and medical libraries for finding very specific topics that may have been described by traditional subject headings in general terms only.

SUBJECT ACCESS AND CLASSIFICATION OF VETERINARY MEDICINE IN LIBRARY CATALOGS

Most U.S. and Canadian medical libraries use the National Library of Medicine (NLM) or the Library of Congress (LC) in the United States to provide catalog records with controlled vocabulary (subject headings) access and classification of medical materials. The two national libraries serve the veterinary profession very differently in terms of their conceptual approach to preferred terms and classification schemes. Medical librarians should have familiarity with *Medical Subject Headings* (MeSH) and National Library of Medicine classification, both of which are designed to cover medicine from a human standpoint. NLM's classification scheme organizes human physiological systems, medical specialties and regions of the body. LC's classification scheme and subject headings, on the other hand, cover a broad range of agriculture and individual animal species in addition to veterinary medicine. Veterinary medicine falls under the broad

topic “Animal culture” in the S (Agriculture) schedule, within the classification range SF600 through SF1100.

Subject heading Practices for Veterinary Medicine

The controlled subject headings generated by the two national libraries reflect their individual conceptual approaches. MeSH’s strength in subject analysis is in its capability to deal with very specific disease conditions. The LCSH’s strength in subject analysis lies in its ability to cover a full range of topics relating to veterinary medicine whether the topics come from the agriculture, from a species concept, or from veterinary medicine itself. There is terminology and species that are peculiar to agriculture and to veterinary medicine (for example: age determination by teeth, bloat, coyotes, llamas). Because it deals primarily with human medicine, MeSH has limited terminology in these areas, making it difficult as an alternative to LCSH for cataloging veterinary materials. Nearly all of the U.S. and Canadian VMLs use LCSH in their catalogs. About one-third of the group also use MeSH in an effort to maximize the subject approach to topics in veterinary medicine.

There are a number of LC subject heading practices with which it helps to be familiar when if you are using controlled subject headings to search for veterinary information in a library catalog. One of the most obvious is LC’s practice of attaching the term “veterinary” to basic disciplines of human medicine. The OCLC Connexion Authority File Root Browse List for subject headings with the initial word “veterinary” begins with the heading “Veterinarian and client” and ends with “Veterinary ultrasononography.” “Veterinary dentistry,” Veterinary ophthalmology,” and “Veterinary radiology” are other examples of this practice. This may seem like a logical approach, but it has tended to limit veterinary subject headings to broad concepts, sacrificing specificity when it is needed, while it also limits the number of subject headings. Fewer than 200 terms appear in this list, which is lacking, for example, the subject heading veterinary otolaryngology. If cataloging a title about ear, nose, throat, and tracheobronchial diseases in cats and dogs, the cataloger must take this approach with LC headings: “Otolaryngology”; “Trachea—Diseases”; “Bronchi—Diseases” [note that the veterinary aspect is not present with these three headings]; and “Cats—Respiratory organs—Diseases”; and “Dogs—Respiratory organs—Diseases.” For the same title, MeSH offers “Otorhinolaryngologic Diseases—veterinary,” “Bronchial Diseases—veterinary,” “Tracheal Diseases—veterinary,” “Cat Diseases,” (too general) and “Dog Diseases” (too general). Use of the subheading “veterinary” is a major benefit to subject searching in MeSH from the veterinary medical point of view, as it not only adds the veterinary aspect to the medical term, but it also collates materials on conditions that are common to humans and to animals.

Unfortunately, lost in LC’s subject heading approach of using the primary word “veterinary” is the key descriptive term itself. When searching “Veterinary cardiology” for example, other books on cardiology, both human and basic research oriented, are separated from veterinary titles. A separate search is needed to see ALL books on the heart, including those with subheadings. (Borrowing the subheading “Veterinary” from

the MeSH approach for use with the LC pattern heading "Heart" would better gather more heart related veterinary materials in one place).

The LCSH and the LC classification scheme do not provide for very many *individual species* veterinary specialties, such as dentistry, ophthalmology, obstetrics, orthopedics, or radiology. This causes scattering of materials that describe individual species only. Some of these titles will grouped in the catalog under the medical category while others will be placed with the species. For example, equine radiology is a very important specialty in equine medicine, but there is no provision for assigning a subheading, "radiology," directly to the subject heading "Horses." Instead, a more general approach is taken through "Veterinary radiology" and "Horses—Diseases—Diagnosis." In the Iowa State University veterinary collection, the same situation is true for many materials covering commonly found conditions or procedures relating to animal species.

A strange practice by LC is the use of phase subject headings to describe some conditions, such as "Colic in horses," "Lameness in horses," and "Allergy in dogs," thus limiting subject use of these conditions to certain species, when logically, making these medical conditions subheadings would extend their use to all species. Other terminology that is predominant in today's practice of veterinary medicine, but which doesn't exist in the LC's vocabulary at all, are the terms "large animal medicine" and "small animal medicine." "Small animal medicine (Pets)" is a *cross* reference under the heading "Pet medicine," but the phrase "large animal medicine" has no existence at all. These are examples in the field of veterinary medicine where keyword searching trumps controlled subject headings.

Finally, similar to human medicine, a confounding problem for finding information about veterinary topics is the use of both lay and professional terminology to describe veterinary or agricultural concepts. While the lay person may think in terms of dog, cat, goat or cow, the professional may be thinking canine, feline, caprine, bovine, small animal, large animal, food or production animal, etc. Whether doing a controlled subject heading search or a keyword search, the best approach is to always think both ways because, for example, a book on feline leukemia may be indexed by the subject heading "Feline leukemia," and not "Cats—Virus diseases," while for a piece about equine influenza, "Horses—Virus diseases" may be used rather than the subject heading "Equine influenza."

Controlled Subject Headings or Keyword?

All of the above discussion is well and good, but according to Thomas Mann, "Studies abound showing that researchers don't use library subject headings. They guess at keywords" (3). In today's computerized world, subject access includes keyword access, not only didactic multi-faceted subject strings that most users would not think to use when searching for a topic. For most users, the use of controlled subject headings to retrieve information in catalogs has been augmented, if not superseded, by keyword searching, though the precision that structured headings offer in retrieving relevant records is still undeniable. There is little doubt that familiarity with controlled subject

headings in veterinary medicine has its place in the hands of an experienced searcher. In actuality, the two searching techniques can be quite compatible when using a library catalog. Even though keyword searching, where order of words is not important, gives us limited recall and terrible precision, it is useful as an initial search to find materials on an unfamiliar topic. Subject headings gleaned from these records can then be used to increase precision searching for other items within the subject area. Mann states it succinctly regarding the use of LCSH or Google: "The difference is finding 'something quickly'—isolated, unstructured, and disconnected information—vs. gaining a systematic overview of the conceptual field" (3). Developing ways to reach users who have sophisticated technological skills, but who have little concern for accuracy and legitimacy in retrieved documents, should be a goal of librarians.

Classification System for Veterinary Medicine

Classification or "classifying" bibliographic materials refers to organizing items in a collection of materials, usually by subject. The practice of "shelflisting" refers to the practice of filing, in order, the various items in a library's catalog, usually by classification (and cutter) number, which, in turn, ensures placement of the physical items on the shelf or Web page in that order. The subject of veterinary medicine is covered in the LC classification Schedule S within the range SF600-SF1100. Most of the U.S. and Canadian VMLs use this classification scheme, although a few use the Dewey Decimal Classification, where veterinary medicine appears in the 636.089 range. The *National Library of Medicine Classification* schedule provides for veterinary medicine with special instructions that allow use of the LC schedules. The instructions say to use, for example, the LC classification QP (Physiology) for classifying the physiology of wild animals in general, while the SF (Animal culture) classification should be used to classify anatomy and physiology of domestic animals. Additional instructions are given in the "Index to Classification" that appears at the end of the schedule. One such instruction is "See also Veterinary under particular topics and specific animals being treated." Following the topic "Cardiovascular Diseases," for example, is the subtopic "Veterinary" with its suggested classification at "SF811." Under "Cats" appears the instruction "Diseases see Cat Diseases" with its suggested classification at "SF985-986." The NLM classification scheme is clearly designed to defer to LC practices for classifying veterinary medicine.

LC's Schedule S begins with general aspects of veterinary medicine, followed by veterinary specialties, and animal species. There is no particular order to these topics. Because veterinary medicine tends to be species oriented, those searching for topics in veterinary medicine are more likely to start their search with the species than with a general topical category. The LC classification scheme does not centralize titles that deal with a particular major species of animal under a base number for that species, so books about a particular species of animal can be quite widely separated in LC's Schedule S. For example, anatomy of the horse (clinical or non-clinical) may be classified at SF765 (veterinary anatomy); a disease such as glanders at SF796 (communicable diseases); age determination by teeth (a common practice with horses) at SF869 (teeth); older titles on the surgical aspects of dentistry at SF911 (veterinary surgery), and newer titles at SF959.M66; pharmacological aspects of equine medicine at SF915 (veterinary

pharmacology); and various specific diseases and pests of the horse at SF959. As with the LCSH, the catalog user simply must learn to look in more than one place when searching for information about a particular species.

When searching for veterinary materials it also helps to know about the veterinary community's compartmentalization of animals into general categories of large animals and small animals. The LC classification scheme deals with this by tending to place materials about a mix of species in broader topical classification numbers. Illustrating this in the Iowa State University collection is the classification number SF891 "Eyes, ears, throat, etc.," where there are 35 titles of a general nature, 14 covering small animals specifically, and 4 covering large animals only. Valuable information could be found about the dog or cat in one of those 14 titles, but it would not be found by looking in the classification for the specific species. Another approach is to classify the material with the predominant species in the item, although the seeker of information may not know which species that might be (the subject headings could give a clue). These are more instances of where it is an advantage to be aware of the scattering of species information in LC's classification Schedule S.

ACCESS TO ELECTRONIC RESOURCES

"The chaos of the Internet is the equivalent of a book with no index or table of contents" (1).

Michigan State University's library director declares on the university's library's welcome page, "The MSU Libraries strive to provide as much information and as many resources as possible electronically, thereby reducing your need to physically come to the library" (4). He recognizes that of all the forces impacting libraries today, automation has had the most impact. We are in an electronic information environment, and we need to emphasize immediacy of information access in order to best serve our users. For optimum value, that information must be organized and managed.

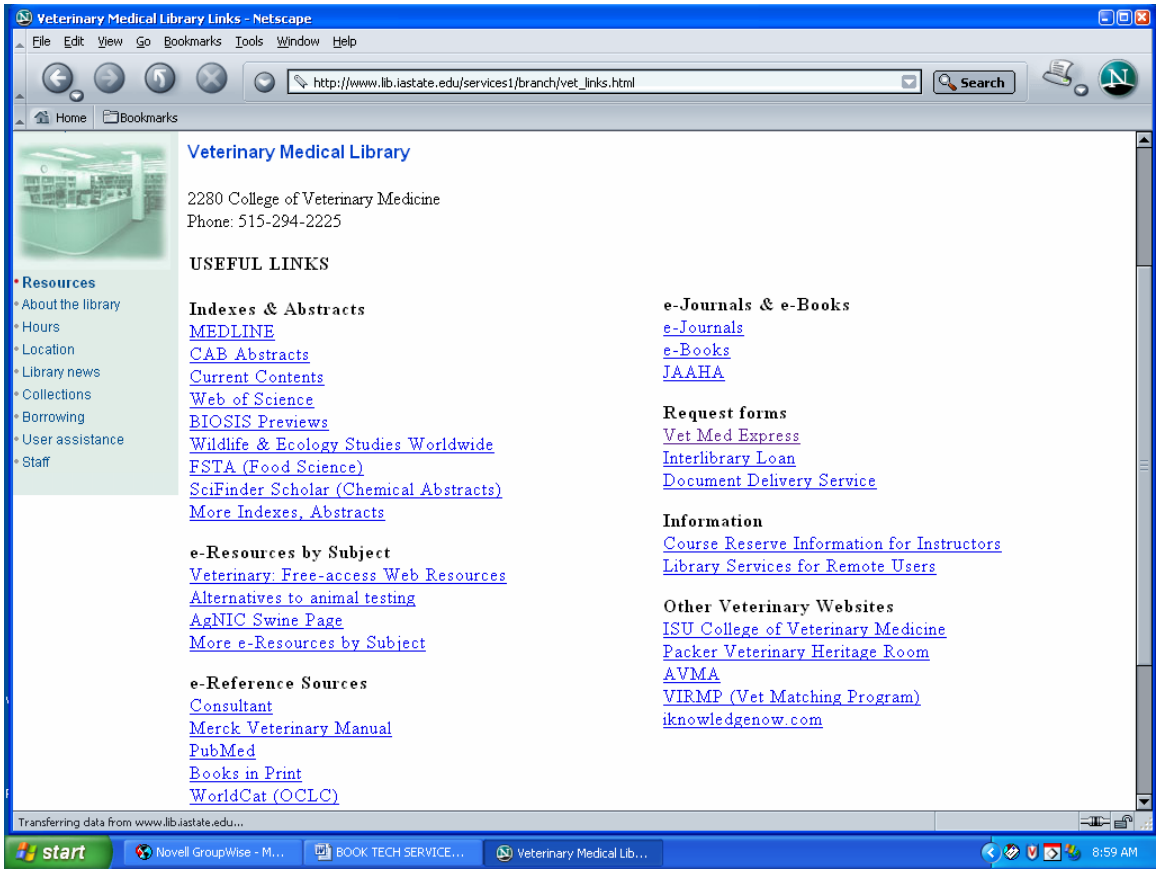
"*To find a book or journal in a library with no catalog would be nearly the same as searching for information on the Internet.*" (1)

With the trend away from acquiring and organizing the physical holdings in libraries and instead towards acquiring and providing access to electronic materials, technical services are transitioning towards providing more access for Web-based resources. The emergence of Web-based OPACs has led to the library catalog becoming a main interface for accessing electronic resources. Whether cataloged or listed on library Web pages, organizing Web documents to ensure reliable retrieval of information is a new challenge for libraries that spans several groups, including technical services, public services, and library systems. At the ISU Library, in general, paid titles and important free titles are both cataloged and listed on Web pages, while ephemeral or less important free titles are listed on Web pages alone. The latter titles are often maintained by the bibliographer only. In this environment, no matter the format, the organizational skills of a cataloger are vital to the access and use of information resources. Setting up the technology infrastructures to provide seamless access to these resources has not been without its

problems, from licensing and authentication issues, to workflow, presentation and maintenance issues. Personnel in technical services departments are frequently responsible for maintaining the accuracy of the library's URLs to items on electronic collection Web pages or on catalog records.

While print materials continue to be the predominant format acquired by VMLs, an increasing number of full-text electronic journals, Web pages, e-books, and citation databases are being made available from VML Web sites (Figure 6), and these libraries can expect to be increasingly involved in organizing these materials for optimum subject access.

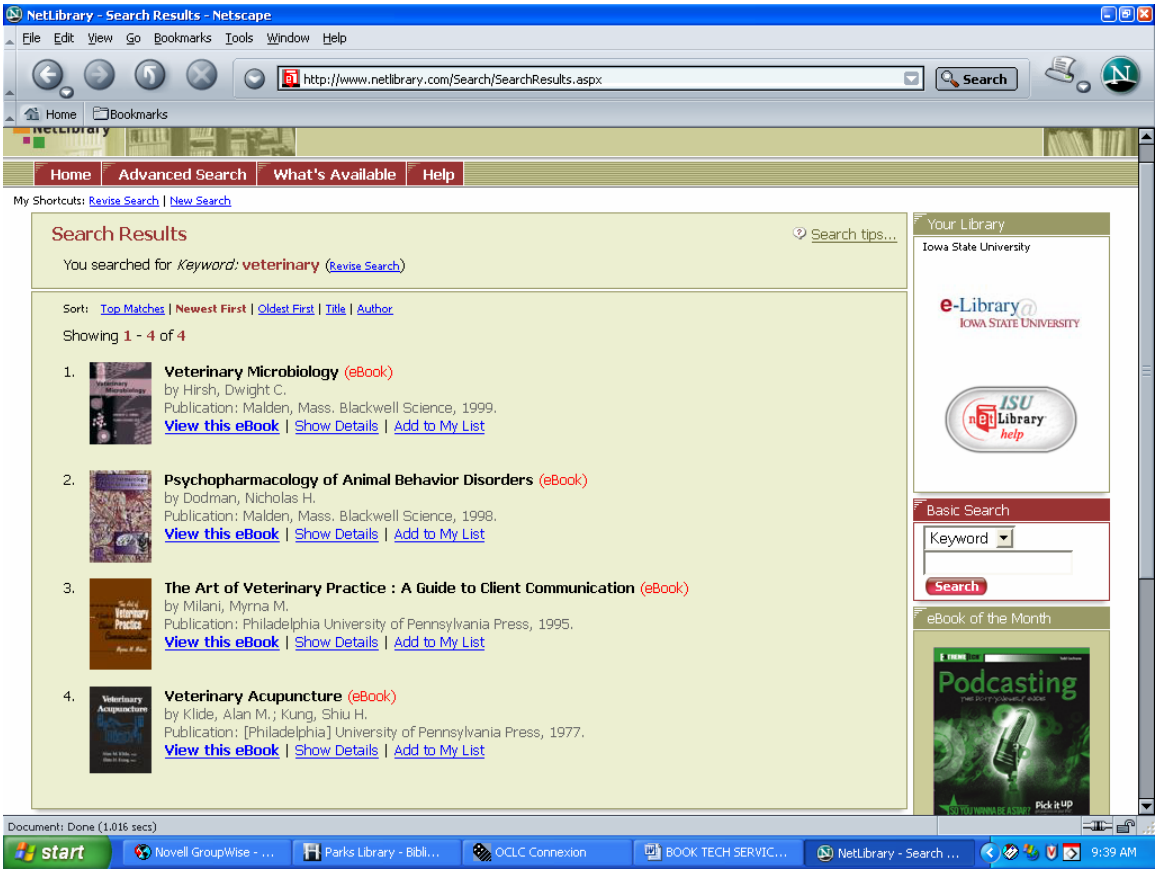
FIGURE 6 IOWA STATE UNIVERSITY VETERINARY MEDICAL LIBRARY HOME PAGE



Elsevier's MD Consult service offers full text reference books and journal articles online. e-books are the newest means of accessing books, offering book length content in a digital format. Usually e-books are digitized versions of their print counterparts. Occasionally they originate and exist only in a digital form. Like print books, the text found in e-books is often enriched with photos, illustrations, graphs and tables. Readers can navigate through the text (e.g. easily search for specific passages) in ways not possible in print. netLibrary, founded in 1998, is a company whose business is to acquire

electronic distribution rights to thousands of books and make them available to users. The predominant method of accessing netLibrary titles is online through a library or personal Web browser. netLibrary hopes to be able to add other use options beyond the one book/one use model that is currently available. e-books are cataloged using the Books format and the Library of Congress Rule Interpretations for reproductions. At the ISU Library, the Monographs Acquisitions department imports the record into the online catalog, with netLibrary subsequently activating the 856 field link for access to the book. Examples of some e-books in the ISU Library collection, acquired through netLibrary, appear in Figure 7.

FIGURE 7 IOWA STATE UNIVERSITY VETERINARY e-books



Shedlock declares, "Electronic publications! The impact of e-book and e-journal services like MD Consult changes everything quickly!" (5)

ACCESS TO DIGITAL COLLECTIONS

A new and relatively unfamiliar area for many libraries is the digitization of objects such as paintings, sculptures, drawings, photographs or any other of many types of artistic creations. These Web-based collections can be used for teaching and learning in specific subject areas. Typically, a non-MARC based metadata scheme is used to organize,

describe, and provide access to the digital images. Available through the ISU Library's home page "Multi-search" feature is a searchable collection of twenty digitized photographs showing historical depictions of horse drawn animal ambulance service, the Iowa State University Stange Veterinary Clinic, veterinary student instruction at the veterinary college, and various clinical procedures used in the first half of the 20th century. The creation of this database is truly a team effort at Iowa State. Personnel in the Information Technology Department provide database and digitization expertise, while the photographs are chosen and described by Special Collections personnel, who use metadata fields that list the context, place and time of the photographs. For subject access, Library of Congress subject headings were assigned by the cataloger who handles the veterinary subject area. Another example of a digitized database is the collection of images of poisonous plants created by the University of Illinois' Veterinary Medicine Library staff in order to help veterinary students with identifying common plants that are toxic to animals in the Midwest. The database, designed to be revised and updated, is available at <http://www.library.uiuc.edu/vex/vetdocs/tocis.htm>.

BIBLIOGRAPHY

1) Bunting, Alison, editor-in-chief. Bibliographic management of information resources in health sciences libraries. Medical Library Association and The Scarecrow Press. 2001.

2) Blansit, B. Douglas, Elizabeth Connor. Making sense of the electronic resource marketplace: trends in health-related electronic resources. *Bulletin of the Medical Library Association*. 87(1999):243-250.

3) Mann, Thomas. Research at risk: when we undermine cataloging, we undermine scholarship. *Library Journal*. 130, issue 12 (2005):38-40.

4) Welcome to the MSU Libraries. (accessed Aug. 25, 2005) http://www.lib.msu.edu/about/welcome.htm

5) Ludwig, Logan, Shedlock, James, Watson, Linda, Dahlen, Karen, Jenkins, Carol. Designing a library: everyone on the same page? *Bulletin of the Medical Library Association*. 89 (2001):204-211.

CHAPTER 4

REFERENCE AND OTHER PUBLIC SERVICES

"Reference" in a veterinary library, as in other libraries, has to do with meeting the information needs of the library's users. Activities of reference librarians and other staff include answering questions and helping patrons answer their own questions using available resources such as the library catalog, indexes, print and electronic journals and books, Web sites, and a wide variety of other sources. In today's library, not only will the available resources likely be some combination of print, electronic, and other media, but the reference assistance itself may be on-site and in-person, or it may occur remotely via telephone, e-mail, a Web form, or even as a live online chat session between patron and librarian. Reference activities from the librarian's perspective can run the full gamut from mundane to fascinating: giving simple directions, handling quick look-up "ready reference" questions, conducting mediated literature searches, teaching users how to conduct their own searches in one or more databases, referring patrons to individuals or organizations outside the library, selecting materials for the library's print (and possibly electronic) reference collection, and managing that collection.

In addition to reference, instruction, outreach, and other activities will be discussed within the context of public services in academic veterinary medical libraries. In its definition of public services, *Dictionary for Library and Information Science* includes reference, instruction, online services, circulation, interlibrary loan, and other operations that bring library staff into direct contact with its users (1).

USER GROUPS SERVED BY VETERINARY MEDICAL LIBRARIES

What is different or special about public services in a veterinary medical library (VML), that is, how do they compare with any academic library, or any other branch library that serves a college or academic department? To answer this, we need to look at the several patron categories served by a typical VML. "VML" as used in this chapter refers especially, but not exclusively, to libraries that primarily serve a College of Veterinary Medicine (CVM), its students, faculty, and staff, and is physically located within the veterinary college building. As of 2001, the majority of the AVMA (American Veterinary Medical Association)-approved U.S. and Canadian veterinary schools (18 of 32) were served by libraries that fell into this category (2). The remaining libraries attended to a CVM as well as one or more other constituency of the university such as a college of agriculture, medicine, nursing, or pharmacy. In addition, a few veterinary colleges are served by two libraries: a campus library and a much smaller clinical library. User groups and library activities will vary somewhat depending on the category of library serving the veterinary community.

Academic veterinary medical libraries will have their own distinct mixtures and proportions of the above categories, and possibly others. These constituencies represent a diverse group of library users, most of whom are seeking specialized veterinary/animal

information. Some libraries develop reference policies that define the types and levels of services to be offered to various patron categories. A 1999 paper by Carol E. Vreeland reports on a survey of reference service policies that was sent to U.S. and Canadian libraries serving medical schools and veterinary medical schools (3). Her study found that among responding libraries, only 16% of veterinary libraries had a written reference services policy, although several combined medical school/veterinary school libraries also kept written policies. Vreeland concluded that a written policy was essential for providing consistent service to a library's various user groups, and that provision of reference services to the general public should be specifically addressed. She noted that further studies were needed on consumer health reference services in veterinary medical libraries. One additional comment about VML policies: while it is true that the CVM's students, faculty and staff typically will make up the vast majority of the library's clientele, most VMLs are administratively a part of the university library system rather than the veterinary college. As with other branch libraries in a large university, a VML may appear to the casual observer to be a stand-alone library and its librarian the "final word" on rules, policy, and everything the library does. A patron proposal for changes in open hours, photocopy and print charges, for more study space, or physical rearrangement of the book and journal stacks will likely need to be discussed not only by the VML staff, but also brought to the attention of several library administrators and possibly one or more committees within the university library system. Final decisions can take considerable time, even if the results are ultimately favorable to the requesting library users.

Shown below is a brief outline of typical patron categories served by a VML:
University-affiliated:

1. The professional (DVM degree) students.
2. CVM graduate students (Masters and PhD).
3. CVM faculty, researchers, clinicians, staff.
4. Students, faculty, researchers, and staff from outside the CVM but within the University, from Departments of Animal Science, Food Science, Biosciences, Colleges of Medicine, University Extension, and elsewhere on- or off-campus.
5. CVM and other University alumni, in some cases.

Non-University-affiliated:

1. Veterinary practitioners, clinics, hospitals.
2. The general public, especially animal/pet owners.
3. Researchers, clinicians, and other professionals representing academic, government, or corporate interests.
4. Attendees of CVM short courses, workshops, veterinary extension programs, and other college-sponsored activities.

University-Affiliated Library Users

For VMLs serving primarily a CVM, the college's students, faculty and staff will obviously be their core constituents, and as a practical matter a library may have little leftover time or resources (staff, collection budgets, etc.) to focus on other types of patrons. The professional (DVM) students are likely to be the most visible group frequenting the library facility during the regular school year, especially the first- and second-year students who are loaded with classwork, reading assignments, group projects, and exams. As the emphasis shifts to clinical medicine in the third and fourth years of the DVM curriculum, students spend more and more of their time in the clinics and less in the traditional classroom setting and the library, at least less time in the physical library.

CVM graduate students have library needs similar to graduate students in the other sciences; they may need help with literature searches; using bibliographic databases and online catalogs; verifying journal, conference proceeding, report, and thesis citations; obtaining items not held by libraries on campus; and library research assistance in general. Likewise, CVM faculty, researchers, and staff may need library support for their research, teaching, and writing projects.

Outside the CVM but still within the University, undergraduate and graduate students and faculty from other colleges and academic departments on campus may be seeking additional information in veterinary-related subject areas of food safety, biosecurity and bioterrorism, zoonoses, public health, livestock and poultry production, pet ownership, animal welfare, and comparative and human medicine, to list a few examples. A telephone conversation or e-mail inquiry in advance of an anticipated visit to the VML may help both client and librarian decide whether a trip is worthwhile, and give the library staff a better idea of how they may be of service. And the visitor may greatly benefit from an appointment which will allow the librarian or other staff to provide a brief orientation to library facilities and resources, as well as assist with the particular topic or question at hand.

A question occasionally arises from University and CVM alumni regarding what special library benefits may be available to them. They may ask for free literature searches, free photocopies of articles, book loans, and assorted other special privileges. This may be the case even though the requestor is now living and working hundreds of miles away from his or her alma mater, yet unknowingly resides within easy driving distance of a library that will be able to satisfy all of his or her particular needs. While the answer may be either yes or no to questions regarding special patron status, these situations can be anticipated by addressing alumni benefits within any existing university library and/or VML written policies and rules.

Non-University-Affiliated Users

As for the non-university affiliated user groups, practicing veterinarians sometimes contact VMLs for assistance with article and document delivery requests or they ask

reference questions. A few veterinarians still request library-conducted literature searches from online databases. A 1991 study by Pelzer and Leysen found infrequent use of computers and libraries by practitioners, but speculated that the trend towards more computers, technology, and communication networks would lessen the information isolation of veterinary practices (4). Fifteen years later, new waves of computer-savvy students have graduated from veterinary schools and begun their own careers in the profession. Just as important has been continued advancements in software, hardware, and telecommunications, along with the development of high quality, veterinary-related internet resources that are freely available to all. PubMed, The Merck Veterinary Manual, and Consultant, a diagnostic support system and database from Cornell University's College of Veterinary Medicine, are only a few of the hundreds of useful and authoritative resources that are now on the Web. In addition, there are some excellent subscription- and membership-based veterinary reference and networking services. The emergence of these resources, however, does not mean that there is no longer a need for veterinary libraries by practitioners or other user categories. Sarah Anne Murphy describes a VML's outreach program directed at Ohio veterinary practitioners (5). The program focuses on e-mail and phone reference, document delivery, a continuing education course on accessing the veterinary literature that includes PubMed searching, and a redesigned library Web site with a specific link for veterinary professionals.

Pet owners on occasion seek library help in finding information about animals, especially information concerning any particular conditions or diseases of their own dog, cat, horse, bird, or other companion or barnyard animal. The creature in question may have already been diagnosed by a veterinarian, and owners want to read up on its condition, including news of any recent developments. The librarian's challenge here is to locate and suggest sources that provide useful information in some detail, yet do not require a veterinary degree or PhD to comprehend. A pitfall to avoid, for ethical and legal reasons, is in making comments that could be construed by the animal's owner as a diagnosis, prognosis, or recommendation of a specific treatment. The best advice a librarian can offer may be to refer the owner back to his or her veterinarian, or possibly to a veterinary extension specialist. Some universities or veterinary colleges employ extension veterinarians for small animal, equine, livestock, or poultry, for service to the general public as well as to the state's veterinary professionals.

Examples of other non-affiliate library users include researchers, educators, and librarians from other universities, state or federal government officials, and drug and animal product representatives. These individuals represent organizations from anywhere in the U.S. and beyond and usually make initial library contact by telephone or e-mail rather than in person. They are often looking for very specific veterinary resources or pieces of information (in some cases proprietary information) that are not readily available from the average public or academic library. Veterinary librarians sometimes need to guard against letting these inquiries evolve into major research projects for the library, but instead suggest relevant publications, databases, offices, etc. that will hopefully steer the investigator in the right direction.

Yet another category of non-affiliated VML user is the out-of-town attendee of veterinary short courses, workshops, conferences, and programs held at the CVM or elsewhere on campus or in the community. These may be local, regional, national, or international in scope and run in length from a few hours to several weeks. They are typically scheduled by CVMs during non-peak periods such as summers, or winter and spring breaks. Attendees frequently take advantage of these learning opportunities to use the collections and other resources of a genuine academic veterinary library. Many have never visited the library previously and may not soon return. In addition to whatever specialized assistance they may need, they will greatly benefit from a brief orientation to the library facility and its staff and resources. Regardless of patron category or type of information request, librarians need agreed-upon reference policies or rules, whether written or informal, to provide fair and consistent service.

ACCESS TO USER SERVICES

Access to Facilities

Typically, veterinary libraries are located in colleges or schools of veterinary medicine that are situated several blocks or even a few miles from the main campus, often in out-of-the-way locations. Within the past few years heightened veterinary security measures have further limited building access to non-veterinary college affiliated individuals. For example, a veterinary college may offer normal workday access to its buildings from one or more entrances, but access to all external doors in the evenings, on weekends and during holidays is only for pre-authorized holders of keys, proximity cards, punch-lock combinations, etc. This means that non-CVM-affiliated library users who are unfamiliar with the veterinary college building(s) should call ahead to determine library open hours, directions to the veterinary facility and to the library location within that facility. Most importantly, they should ascertain from a conversation with library staff whether the library is going to be able to satisfy their particular information needs, and if the answer is yes, is a visit to the physical facility even necessary. For example, does the library have on its shelf several books on a certain breed of dog a person is considering acquiring? Will it have veterinary texts that describe a particular surgical procedure in sufficient detail? Does the library provide print and/or electronic access to current, recent, and older issues of some specific veterinary periodicals that an individual wants to browse? Will there be someone present who can instruct a non-affiliated researcher in using the CAB Abstracts database, for example, and then help that person find the referenced articles and other publications on the shelves or on the computer? These and similar questions can sometimes be dealt with successfully by telephone, e-mail, fax, document delivery, or other means, thereby saving the patron an unproductive trip to the VML. If a visit to the library is deemed necessary by staff but the patron simply cannot make it to the building during regular weekday hours, special arrangements may need to be made during “off” hours to resolve the situation. The annual *AVMA Membership Directory and Resource Manual* includes a detailed description of services and resources provided to veterinary professionals by the libraries serving AVMA-accredited institutions in the United States, Canada and overseas. The directory also provides a complete list of those libraries along with contact information for each (6).

Access to Electronic and Print Resources

The resources of a VML, as with many other libraries, are much closer to everyone than they were 20 years ago because of the computer, the Internet, and remote access. Libraries of all types and sizes now maintain their own Web sites that provide library information and news, links to the online library catalog, citation databases to which the library subscribes, hundreds if not thousands of electronic journals and books, and subject resource guides that link to veterinary-related Web sites worldwide. Often these same resources are made available remotely off-campus as well as on-campus; proper user authentication will be required to obtain remote access to paid subscription library resources such as e-journals, index databases, and e-books. Other excellent resources such as PubMed, AGRICOLA (Agricultural Online Access), The Merck Veterinary Manual, and Consultant, a veterinary diagnostic database, are also linked from VML Web pages and are freely available to everyone. The Internet in general and the Web in particular have brought the library closer to all its users, at least all who have entered the computer age.

A still-important service of many VMLs, however, is the maintenance of an in-house collection of print reference materials: dictionaries, encyclopedias, handbooks, manuals, guides, directories, and other publications for ready reference by in-library users, as well as for the use of library staff in answering frequently-asked questions. It must be noted that in VMLs the latest editions of many of the standard veterinary textbooks are frequently shelved in Reserve, and as a ready source of facts, figures and detailed information on conditions, diagnoses and treatments serve as an invaluable extension of the library's Reference collection.

The library may have additional responsibilities for collecting other formats of reference materials besides print: CD-ROM, CD, DVD, microform, Web sites, etc. CVMs may have their own biomedical communications departments or similar units that collect some or most of the non-print materials used in the College. Format needs to be addressed in the CVM's collections and/or reference policies. The issue of format has been somewhat complicated by the fact that some publishers have bundled CDs or DVDs with their print texts for a single price; they are marketed together as a package.

Nearly all bibliographic indexes and abstracts that are likely to be used by veterinary students, faculty and researchers are now available electronically. The shift from print to electronic format for journals has been steady and pronounced, but is far from complete. The change from print to e-books has been slow by comparison. As more CVMs require or strongly encourage their students to use laptop or tablet computers and provide wireless access throughout their buildings, and as more class materials are placed on these computers, it is natural to assume that more course-required and recommended veterinary texts will be accessed from these same computers. Correspondingly fewer books and class reading assignments will be accessed in print, or they may be kept in libraries as backup and archival copies and no longer be heavily-used reserve materials. Veterinary researchers and graduate students, however, will continue to draw upon a

wide range of current and older print journals, conference proceedings, reports, books, etc. into the foreseeable future, and the library will likely remain the foremost repository for these print items.

ASSISTING VARIOUS USER GROUPS

Assisting Users within the VML

As with other small academic branch libraries, in contrast to the university main library, the lines separating reference from other library functions are frequently blurred. Reference, circulation, reserve, document delivery, lost-and-found, and a variety of other public services are often handled from a single service desk. This is advantageous from a user's perspective in that he or she needs go to only one desk to ask any question or to request any service.

Types of questions received and how they are answered by library staff depend to a great extent on the category of patron. The largest single category of VML users consists of the professional (DVM degree) students. These students frequent the library to check out class materials including required and recommended reading that has been placed on Reserve, study individually or work on class assignments in small groups, use the photocopiers and computers, or browse some current issues of veterinary periodicals. Because they spend more time in the physical library than other user groups, there are more opportunities for library staff to answer students' reference and directional questions. The veterinary librarian or other staff can also provide point-of-use instruction on the library online catalog, on choosing and searching index databases, accessing e-journals, locating books, print journals, and other items in the library, using the library's Web request forms to recall a book, requesting book or journal delivery from the main library or a library storage building, and using interlibrary loan to obtain materials not held by the VML or elsewhere in the university library system. Instruction to larger groups of students or others is typical of most academic libraries in that it focuses on use of library resources, usually within the context of a subject or topic: veterinary medicine, veterinary ethics, alternatives to animal testing and teaching, etc. Depending on the size of the class or other group and library facilities, these sessions may need to take place elsewhere in the CVM, in a classroom, meeting room, or computer lab.

Many individuals from the other CVM groups (vet grad students, faculty, research assistants, clinicians) may visit the library to browse the latest issues of their favorite journals (of those print titles that the library has not yet replaced with their online counterparts), seek specific journal articles, books, conference proceedings, use the photocopiers or check out publications to photocopy in their departments, pick up books and other items delivered to them from the main library, and so forth. These frequent in-library contacts help library staff become acquainted with many of the students, faculty and other college and departmental employees, along with their individual research and classroom needs. This frequent interaction can contribute to a more personalized, less bureaucratic service operation within a welcoming, user-friendly environment.

Initial and subsequent contacts with VML patrons beyond the CVM and the university are less likely to occur within the library facility itself, due to its relative remoteness, and also because of building security issues. Security has become a serious concern for a variety of reasons, including the threats and actions of some animal rights activists, and heightened awareness of biosecurity and bioterrorism issues. While any category of library user may have access during normal weekday hours to VMLs housed within veterinary college facilities, evening and weekend visits by "outsiders" can become more problematic. It is important that library Web site information, calendars, and other publicity make clear any differences in library access hours for CVM- versus non-CVM-affiliated patrons. Regardless of time of day or day of the week, initial contacts with non-university clients often occur by telephone, e-mail, or as Web reference questions. In at least some cases an individual's question or request can be satisfied or referred to a more appropriate source without a visit to the VML. If not, an appointment can be arranged at a mutually agreeable time to assist persons with their specific needs. A pet owner, veterinary practitioner, and drug company researcher, for example, will each have very different information needs that call for different types of assistance and possibly different levels of service.

Library Web Services

What makes the turn-of-the-21st-century academic veterinary library very different from its 1950 (or even 1990) counterpart is the ability to deliver a large portion of its services and collections electronically to a scattered and diverse user base, via a well-organized Web site. Within only the past few years a larger portion of reference now takes place remotely, that is, outside the physical library. (This overall "out of library" experience, however, will be somewhat tempered in those VMLs that are conveniently located in the same building as the students, faculty, researchers, clinicians, and staff of the CVM.) Some examples of remote information delivery and exchange typically available at a library Web site include:

"Ask a question" Web form
e-mail questions and remarks; can be directed to a specific librarian
"e-Resources by Subject" pages; quality-assured Web sites arranged, annotated, and linked
Web form to put a recall on a library book that is checked out
Web form to put a hold on a book ordered but not yet received or processed by the library
Web form to request the library purchase a book, journal, or other item
Access borrowing record online: see a list of books you have checked out, when due, fines owed
ILL request form, intra-campus delivery form, fee-based document delivery form
Loansome Doc (some VMLs participate in NLM's document ordering system for end users) (7)
Basic information about the library: its collections, services, location, hours of operation
Collections, reference, and general library policies
Contact information for library staff: names, e-mail address, telephone and fax numbers

Some VML Home Pages now offer separate resource links or "tracks" for the CVM community (students, faculty, staff), veterinary practitioners, and animal owners. Libraries may arrange or tag their e-resources in such a way that users can see at a glance which ones are available only in the library or on campus, which ones are available off-campus to CVM- or University-affiliated users only, and which ones are freely available to all, regardless of patron category or location.

To the extent that digital chat (real-time) reference occurs in VMLs, it may be "plugged in" to the chat service of the main university library, if indeed such a service is even offered on campus. "Live chat" may not be well-suited for small VMLs with small staffs. Nor would it seem essential for a faculty member or researcher whose office was only a one- or two-minute walk from the room that houses the library, which is often the case. E-mail as a vehicle for ready reference, however, has been around for years, as an "Ask a Question" Web form, or more informally is initiated by patrons who find a librarian's or library office's e-mail address on a Web page or in a print directory. A recent study of academic health science libraries found that approximately 90% maintained a digital e-mail service, but only 27% offered digital chat (8).

REFERENCE STAFF

Regarding the practice of reference in an academic VML, which library staff should handle which kinds of questions from which categories of patrons? Reference policies and rules can partially address this, but realistically a small permanent staff that consists of one MLS librarian plus one or two paraprofessionals means that a number of part-time student assistants will need to be hired to work most evening and weekend desk hours. These students must be willing and able to help with reference questions while at the same time recognizing the point at which they need to turn a question over to a permanent library staff member, whether on-the-spot, or possibly the next working day if the question is asked during evening hours or on a weekend. While a small permanent staff has its obvious limitations, a potential advantage is small-team flexibility – each staff member by necessity has knowledge of many operations within the library, the option to refer a patron's question at the time it is asked to another staff member or work on a question together, and the likelihood of knowing someone else in the CVM with the needed subject expertise to answer a difficult question.

FIGURE 8 A VIEW OF THE IOWA STATE UNIVERSITY VETERINARY MEDICAL LIBRARY SERVICE DESK

Whether formally stated or only implied, a flexible tiered system of reference is probably in practice at most VML service desks. If a student worker cannot answer a patron's question or satisfy a request, that student refers the question to the paraprofessional on duty, who, if unable to resolve the matter, may then refer it to a fellow paraprofessional, if there is one, or to the librarian in charge. In actual practice, especially with a small team, this process may not even be obvious to the waiting patron. The question may be quickly bounced around by staff and the matter resolved within a minute or two. The success of such a team approach lies not so much in referring a question "up the chain" but in each staff person, including the part-time student helper, being able to quickly judge which co-worker, if not themselves, would best be able to answer a specific question or type of request. For example, an unusual circulation question may need to be referred to the paraprofessional who works most frequently at the service desk; a difficult citation verification from a faculty person or research assistant may need to go directly to the vet med librarian; the best person to quickly locate the "answer" to a class assignment, or at least the most likely source for the answer, could very well be the library's veterinary student worker who took that same course last year, or is taking it this semester.

NEW APPROACHES TO INFORMATION DELIVERY

There is some evidence that veterinary librarians are gradually moving more reference and instruction activities outside the library and into the veterinary clinics, faculty offices, and classrooms of the CVM. In a brief article now ten years old, Texas A&M librarian Norma Funkhouser describes her (then) "librarian/informatician" position as a joint appointment: 60% librarian in the Medical Sciences Library, and 40% lecturer in the College of Veterinary Medicine (9). She served as liaison between the Library and the teaching and research activities of the CVM, with reference, mediated searching and bibliographic instruction responsibilities at the Library. At the College, she taught online search skills and computer software applications to students and faculty, both in the classroom and one-on-one in faculty offices. She reported that her work in each of these two environments supported and benefited the other. A more recent paper concerning the Texas A&M Medical Sciences Library gives an overview of its Clinical Veterinary Librarian (CVL) service (10). Librarians attend rounds in the large or small animal clinics, conduct literature searches to support patient care (focusing on CAB Abstracts, MEDLINE, and Current Contents), and advise students and faculty regarding the most appropriate resources for their research. Future plans for the CVL program included providing information at point of care in the clinics.

The University of Florida Health Science Center Libraries (HSCL) has taken a slightly different approach. HSCL serves six colleges, including the College of Veterinary Medicine. In 1999 HSCL began a liaison librarian program that addressed function as well as subject specialty of its CVM patrons (11). Two liaisons were assigned to the College, one for basic sciences and one for clinical sciences. The basic sciences liaison covered the Pathobiology and the Physiological Sciences Departments and their faculty, Ph.D. students, and M.S. students. The clinical sciences liaison was responsible for the Small Animal Clinical Sciences and Large Animal Clinical Sciences Departments, their faculty, the professional (DVM) students, and residents. Liaison duties included communication, user education, collection development, and information access (providing access to e-journals, developing Web page collections, etc.). Instruction sessions for the library's clinical clients focused on MEDLINE, CAB Abstracts, PubMed Clinical Queries, and Internet resources. HSCL's experience, along with its surveys of CVM members, suggested to the authors that a functional division of responsibility by liaisons (clinical versus basic science) could be effective at any academic medical center library.

Another recently published paper details the experiences of Washington State University's Health Sciences Library (HSL) in providing instructional outreach programs to veterinary professional (DVM) students (12). All students in the DVM program receive at least three mandatory library instruction sessions. The first session occurs at the beginning of the students' first year and consists of a one-hour library orientation and introduction to the library catalog and database searching. The databases used are PubMed, VETCD, and BEASTCD. (VET and BEAST are the veterinary science and animal science subsets of CAB Abstracts, the large agriculture/biosciences bibliographic database.) The library's second mandatory session supports the College of Veterinary

Medicine's Diagnostic Challenges (DCs) problem-based learning intensive program. DCs are separate one-week sessions that take place three times during the students' second year. Student teams are given case studies that require a literature search by them, along with a library search refresher. Finally, librarians provide students with an instruction session when they begin the required independent research project that results in their senior paper. The authors conclude that successful use of electronic databases is a vital part of the veterinary curriculum, and that library-veterinary college collaboration has positively affected student learning.

The above examples of library outreach, liaison, and clinical veterinary programs come from larger health science libraries that serve several schools or colleges, of which one is a veterinary college. It has been noted that most published literature on liaison programs relates to the activities of the larger academic libraries. In a 2003 article, Jill Livingston invites small libraries to adopt the liaison model of the larger libraries, but scale it down to size to fit their fewer resources and staff (13). She contends that a liaison program does not need to represent every individual in an institution, but the really important consideration is the likely degree of mutual benefit between the library and a particular user group. Establishing good communication is the single most important element. This should be a reasonably attainable goal for smaller VMLs that primarily serve a college or school of veterinary medicine, a goal that has hopefully been realized in large part by most. Once effective channels of communication are in place, the small library can concentrate on improving specific services such as reference, instruction, and developing the collection, to the extent that its more modest budget and staffing will allow.

NOTES

1. Joan M. Reitz, *Dictionary for Library and Information Science* (Westport, CT: Libraries Unlimited, 2004). Also available online as *ODLIS – Online Dictionary for Library and Information Science.* <http://lu.com/odlis/>.

2. Veterinary Medical Libraries Section of the Medical Library Association, *Survey of Veterinary Medical Libraries in the United States and Canada 2000/2001* (May, 2002). <http://www.lib.vt.edu/services/branches/vetmed/VMLS/2000-2001%20Survey%20Results.pdf> (accessed October 12, 2005).

3. Carol E. Vreeland, *A Survey of Consumer Health Reference Services Policies of Academic Medical School Libraries and Veterinary Medical School Libraries* (master's paper, University of North Carolina at Chapel Hill, 1999). <http://ils.unc.edu/MSpapers/2515.pdf> (accessed September 23, 2005).

4. Nancy L. Pelzer and Joan M. Leysen, "Use of Information Resources by Veterinary Practitioners," *Bulletin of the Medical Library Association* 79 (1991): 10-16.

5. Sarah Anne Murphy, "Bridging the Geographic Divide: Information Access for Remote Veterinarians: A Case Study of Outreach and Engagement in Ohio," in *Proceedings, 4th International Conference of Animal Health Information Specialists*, 6-9 August 2003, Budapest. <http://library.univet.hu/icahis/proc/kmurphy.pdf> (accessed September 13, 2005).

6. American Veterinary Medical Association, *AVMA Membership Directory and Resource Manual*, (Schaumburg, IL: American Veterinary Medical Association, 2005): 385-92.

7. U.S. National Library of Medicine, National Institutes of Health, *Loansome Doc Fact Sheet* (2002; updated 21 June 2005). <http://www.nlm.nih.gov/pubs/factsheets/loansome_doc.html> (accessed November 14, 2005).

8. Cheryl R. Dee, "Digital Reference Service: Trends in Academic Health Science Libraries," *Medical Reference Services Quarterly* 24, no. 1 (2005): 19-27.

9. Norma F. Funkhouser, "Betwixt and Between: Librarian and/or Informatician?" *Medical Reference Services Quarterly* 14, no. 3 (1995): 53-57.

10. William Olmstadt, Christine L. Foster, Nancy G. Burford, Norma F. Funkhouser, and Joe Jaros, "Clinical Veterinary Librarianship – The Texas A&M Experience," *Bulletin of the Medical Library Association* 89 (2001): 395-97.

11. Michele R.Tennant and Tara Tobin Cataldo, "Development and Assessment of Specialized Liaison Library Services: Clinical vs. Basic Science in a Veterinary Medicine Setting," *Medical Reference Services Quarterly* 21, no. 2 (2002): 21-37.

12. Sarah K. McCord and Vicki F. Croft, "Instructional Outreach and Liaison to a Veterinary Medicine Program at Washington State University," in *Developing End User Programs in Medical Libraries*, ed. by Elizabeth Connor, 15-24 (New York: Haworth Press, 2005).

13. Jill Livingston, "The Benefits of Library Liaison Programs for Small Libraries: An Overview," *Medical Reference Services Quarterly* 22, no. 1 (2003): 21-30.

CHAPTER 5

THE FUTURE OF INFORMATION DELIVERY

VETERINARY PROFESSION CHANGES

A recent paper by Dr. John U. Thomson, now Dean of the Iowa State University College of Veterinary Medicine, lists four building blocks in the veterinary curriculum essential to the future competence of the profession: expert-based learning (typically biomedical science courses taught by an expert in the discipline), problem-based learning (PBL), evidence-based medicine (EBM), and finally, medical outcome assessment, which he describes as a prospective longitudinal clinical trial conducted by veterinarians to help fill gaps in the scientific knowledge base (1). Veterinary reference librarians have long supported the traditional expert-based learning by helping students find needed books and journals in the library, teaching online catalog and database use one-on-one and in classroom settings. Librarians have also worked with instructors in putting class materials on reserve and at times may teach one or more class sessions in a particular course on information retrieval using in-library, catalog, database, and Internet resources.

At least two of the other veterinary curriculum building blocks mentioned above, PBL and EBM, would appear to offer new challenges and opportunities to veterinary librarians. Problem-based learning, while it has been adopted in educational programs in a variety of disciplines since the 1960s, is of growing interest to veterinary colleges in the U.S. and elsewhere according to a recent journal article (2). Its author identifies several common key features of PBL programs which include teacher as facilitator, the use of problems or "scenarios," learning in small groups, and assessment. The tasks of PBL focus on problem identification, setting learning goals as a group, self-directed knowledge searching, group sharing of that knowledge, and then applying it. The author indicates that even though PBL has been highly scrutinized, questions remain concerning its effectiveness, so veterinary educators should rigorously evaluate development of their curricula. There are a number of recent articles in the library literature about PBL as it relates to health sciences libraries, but little mention of veterinary libraries in particular. A survey of Iowa State University College of Veterinary Medicine professional students revealed that a small group of students (ten) in an optional, experimental PBL program indicated that as a group they used the Web/Internet more frequently than other students; more of their courses required use of library print or electronic resources; and they showed the highest use of the computerized indexes (3). This is not surprising, given PBL's focus on seeking, sharing, and applying information. The multiple roles of librarians involved in PBL are put into a framework of six activities by Jolene M. Miller, a medical librarian at the Medical College of Ohio, Toledo. Activities listed encompass assistance and instruction at the reference desk, course-related instruction, consultations with faculty and students, group facilitation, and resource management (which includes collection development) (4). Although the modest budgets and staffing of some VMLs may affect the degree of library participation in PBL, there will be opportunities for new and challenging roles that include direct involvement with faculty and students in the

PBL curricula, course related instruction in information seeking, and even the possibility of librarians serving as group facilitators, in programs that do not require that subject experts fill this role.

Evidence-based veterinary medicine (EBVM) as an adaptation of evidence-based medicine (EBM) is a relatively recent development in the veterinary profession. A sure sign that EBVM had "arrived" came in 2003 with the release of a new book that addressed the concept and practice, *Handbook of Evidence-based Veterinary Medicine* (5). The same authors, Cockcroft and Holmes, soon afterwards published a three-part series on EBVM in the veterinary journal *In Practice* (6-8). The first article in the series offers a definition (the use of current best evidence in making clinical decisions) which it contrasts with EBM (the integration of best research evidence with clinical expertise and patient values). Cockcroft and Holmes make several comparisons that account for the less exacting criteria at present for EBVM: existing evidence is greater in human medicine as are its resources, a broader approach is required in veterinary medicine because its literature base is much smaller than that of human medicine, and by necessity veterinary professionals are forced to evaluate poorer sources of evidence than their counterparts in human medicine. This is not to understate the importance or potential of EBVM. The authors report a growing body of opinion that EBVM is vital to the future of the profession, but this will require a dedicated expansion of the existing clinical evidence base both by and for veterinary practitioners. The authors state that the single most important source of information in EBVM is peer-reviewed journal papers, and touch briefly upon searching the PubMed/Clinical Queries, CAB, and Consultant databases. This would suggest an expanded role for librarians in database knowledge and evidence-based searching, and possibly in document delivery, as EBVM is accepted and adopted by faculty and students in veterinary colleges and ultimately by veterinary practitioners.

As a cautionary note, preliminary investigations into the EBVM-searching effectiveness of PubMed (9) and CAB Abstracts (10) by Sarah Anne Murphy found mixed results and the need for further studies. This would indicate a research area for veterinary librarians in exploring EBVM searching characteristics and efficiencies of databases, in addition to searching them and instructing in their use.

Meanwhile, EBM is going through its own changes and development within the medical profession. An interesting overview article traces the history of the medical sciences knowledge base, along with the evolution of the EBM model into Evidence-Based Health Care (EBHC) and now possibly into Evidence-Based Practice (EBP), all from the perspective of the health sciences library (11). The article's authors suggest several new emerging roles for health science librarians that will be built around clinical knowledge-based systems, informatics, and instructional technology. At least some educators contend that it is unrealistic to expect most clinicians to make point-of-care decisions based upon the standard EBM approach. Instead, EBM instead needs to be taught to students, residents, and physicians within the larger context of information management (12). While EBVM will follow its own course within veterinary schools and the

profession, it is not likely to be immune to new EBM developments and trends within human medicine.

Yet another opportunity for those librarians with the inclination, time and necessary subject familiarity is in bioinformatics, and more specifically clinical bioinformatics and biomedical informatics, genomics, and proteomics. For example, there is presently considerable interest in searching non-bibliographic databases from the National Center for Biotechnology Information (NCBI) including Nucleotide, Protein, Genome, Structure, and others, all freely available and prominently linked from within PubMed. An excellent non-specialist introduction to bioinformatics, along with related scientific fields, their definitions and relationships, appears in a recent JASIST article (13). An attempt in the late 1990s by Smith and Williams to define the veterinary informatics knowledge base by identifying peer-reviewed biomedical literature indexed in the MEDLINE database found only 611 articles, but speculated that as the field grows there may be a need for "veterinary informaticians" to monitor the field and explore new ways of using computer and information science in veterinary medicine (14).

It would appear that as veterinary and biomedical information continues to increase at a rapid rate, along with a corresponding need to identify, locate, retrieve, deliver and manage it, and assist others in doing so, there will be a continued need for veterinary reference librarians. In addition to traditional responsibilities of reference and instruction, new opportunities for librarians are likely to be created by problem-based learning programs in veterinary colleges, the profession's adoption of evidence-based veterinary medicine, and bioinformatics, to name a few.

THE CHANGING FACE OF VETERINARY LIBRARIES

With the explosion of medical knowledge and technology in the health fields, the need for access to information by health professionals, including veterinarians, has increased greatly in recent years. The Internet has brought veterinarians together for information exchange as never before through private e-mail and professional e-mail forums. Web sites and databases with professional information, and clinical practice Web home pages that include animal health information for pet owners are among the variety of Internet applications available for use by academic veterinarians and those in veterinary practices. Electronic resources have the advantage of being more current, and sometimes more comprehensive than comparable print equivalents. To best serve the newest needs of this community, VMLs must continue to focus on Web site and infrastructure development in order to improve the ability of their patrons to effectively access large collections of digital resources. In her article about the issues being faced by reference librarians, Carol S. Scherrer boldly stated, "The library used to be this gate keeper. Now the whole ballgame is access" (15). She presents the notion that reconfiguring the library to meet the needs of patrons NOT coming into the library should be the focus of libraries in the future. Knight and Brice see the future of health science libraries as being reinvented to be libraries without walls that act as filters of knowledge and as "center(s) of instruction in which to learn skills as well as access knowledge" (16). This notion is certainly compatible with the reality of non-academic veterinary practitioners who are physically

removed from VMLs, as well as veterinary academics and students who are increasingly computer literate.

The role of medical librarians is increasingly that of curriculum based instruction and outreach. As noted above, there are challenging opportunities for veterinary medical librarians to be involved directly with faculty and students in problem based learning instruction and in expert based learning. Dr. Thomson asserted that "[Veterinary] Students need to become information literate to the point where they understand the processes and systems for acquiring current and retrospective information. They need to understand how to use information storage and delivery systems"(1). He concluded by stating that graduate veterinarians who are well versed in expert based learning improve the overall quality of veterinary medicine offered to the consumer. The veterinary medical librarian can be instrumental in teaching and providing the basis of information to achieve this goal in the electronic environment. The Internet is not only bringing together veterinarians with the latest published information as never before: it can also bring together veterinarians with librarians who provide the latest published information as never before.

.

NOTES

1. John U. Thomson, "The Building Blocks in the Professional Education Process That Lead to Best Practices and Quality Medicine," *Journal of Veterinary Medical Education* 31 (2004): 6-8.

2. Mark J. Newman, "Problem Based Learning: An Introduction and Overview of the Key Features of the Approach," *Journal of Veterinary Medical Education* 32 (2005): 12-20.

3. Nancy L. Pelzer, William H. Wiese, and Joan M. Leysen, "Library Use and Information-Seeking Behavior of Veterinary Medical Students Revisited in the Electronic Environment," *Bulletin of the Medical Library Association* 86 (1998): 346-55.

4. Jolene M. Miller, "A Framework for the Multiple Roles of Librarians in Problem-Based Leaning," *Medical Reference Services Quarterly* 20, no. 3 (2001): 23-30.

5. Peter D. Cockcroft and Mark A. Holmes, *Handbook of Evidence-based Veterinary Medicine* (Malden, MA: Blackwell Publishing, 2003).

6. Mark Holmes and Peter Cockcroft, "Evidence-Based Veterinary Medicine 1. Why Is It Important and What Skills Are Needed?" *In Practice* 26 (2004): 28-33.

7. Peter Cockcroft and Mark Holmes, “Evidence-Based Veterinary Medicine 2. Identifying Information Needs and Finding the Evidence,” *In Practice* 26 (2004): 96-102.

8. Mark Holmes and Peter Cockcroft, “Evidence-Based Veterinary Medicine 3. Appraising the Evidence,” *In Practice* 26 (2004): 154-64.

9. Sarah Anne Murphy, “Research Methodology Search Filters: Are They Effective for Locating Research for Evidence-Based Veterinary Medicine in PubMed?” *Journal of the Medical Library Association* 91 (2003): 484-89.

10. Sarah Anne Murphy, “Applying Methodological Search Filters to CAB Abstracts to Identify Research for Evidence-Based Veterinary Medicine,” *Journal of the Medical Library Association* 90 (2002): 406-10.

11. Gerald J. Perry and Michael R. Kronenfeld, “Evidence-Based Practice: A New Paradigm Brings New Opportunities for Health Science Librarians,” *Medical Reference Services Quarterly* 24, no. 4 (2005): 1-16.

12. David C. Slawson and Allen F. Shaughnessy, “Teaching Evidence-Based Medicine: Should We Be Teaching Information Management Instead?” *Academic Medicine* 80 (2005): 685-89.

13. David Fenstermacher, “Introduction to Bioinformatics,” *Journal of the American Society for Information Science and Technology* 56 (2005): 440-46.

14. Ronald D. Smith and Mitsuko Williams, “Applications of Informatics in Veterinary Medicine,” *Bulletin of the Medical Library Association* 88 (2000): 49-55.

15. Scherrer, C.S., “Reference Librarians’ Perceptions of the Issues They Face as Academic Health Information Professionals.” *Journal of the Medical Library Association* 92 (April 2004): 226-32.

16. Knight, Thalia and Anne Brice, “Librarians, Surgeons, and Knowledge,” *Surgical Clinics of North America* 86, no. 1 (2006): 71-90.

WEB SITES FOR U.S./CANADIAN LIBRARIES SERVING VETERINARY COLLEGES

Auburn University: http://www.vetmed.auburn.edu/index.pl/library

Colorado State University: http://lib.colostate.edu/branches/vet/

Cornell University: http://www.vet.cornell.edu/library/

Iowa State University: http://www.lib.iastate.edu/services1/branch/vet_links.html

Kansas State University: http://www.vet.ksu.edu/depts/library/index.htm

Louisiana State University: http://www.vetmed.lsu.edu/library/

Mississippi State University: http://library.msstate.edu/cvm/

North Carolina State University: http://www.lib.ncsu.edu/vetmed/

Michigan State University: http://www.lib.msu.edu/coll/branches/vetmed/

Ohio State University: http://library.osu.edu/sites/vetmed/

Oregon State University: http://www.vet.orst.edu/library/library.htm

Purdue University: http://www.lib.purdue.edu/vetmed/

Texas A&M University:

http://library.tamu.edu/vgn/portal/tamulib/content/renderer/0,2174,1724_17562,0_0.html

http://library.tamu.edu/vgn/portal/tamulib/ssl/renderer/0,2775,1724_1453635,00.html

Tufts University: http://www.library.tufts.edu/vet/

Tuskegee University: http://www.tuskegee.edu/Global/story.asp?S=1141033

University of California, Davis: http://www.lib.ucdavis.edu/healthsci/

http://www.lib.ucdavis.edu/dept/hsl/resources/vetmed/

University of Guelph: http://www.lib.uoguelph.ca/

http://www2.lib.uoguelph.ca/help/research/guides/index.cfm?code=veterinary

http://www2.lib.uoguelph.ca/help/research/guides/index.cfm?code=AltVetMed

http://www2.lib.uoguelph.ca/help/research/guides/index.cfm?code=vetpharm

University of Florida: http://www.library.health.ufl.edu/

http://www.library.health.ufl.edu/VMRR/VMRR.htm

University of Georgia: http://www.libs.uga.edu/science/

http://www.libs.uga.edu/researchcentral/subjectguides/vetmed.html

University of Illinois—Urbana-Champaign: http://www.library.uiuc.edu/vex/

University of Minnesota: http://vetmed.lib.umn.edu/

University of Missouri: http://vetmedlibrary.missouri.edu/

University of Montreal: http://www.medvet.umontreal.ca/biblio/english.htm

University of Pennsylvania: http://www.library.upenn.edu/vet/

University of Prince Edward Island: http://www.upei.ca/~library/

http://www.upei.ca/~library/html/vetmed.html

University of Saskatchewan: http://library.usask.ca/vetmed/

University of Tennessee: http://www.lib.utk.edu/agvet/

http://www.lib.utk.edu/agvet/veterinary/vet.html

University of Wisconsin—Madison: http://steenbock.library.wisc.edu/

http://steenbock.library.wisc.edu/subjectguide/vetsites.htm

Virginia Polytechnic Institute & State University:

http://www.lib.vt.edu/services/branches/vetmed/index.html

Washington State University: http://www.wsulibs.wsu.edu/hsl/

http://www.wsulibs.wsu.edu/hsl/forvets.htm

Western University of Health Sciences: http://www.westernu.edu/library/home.xml

http://www.westernu.edu/veterinary/resources.xml

READINGS IN VETERINARY MEDICAL LIBRARIANSHIP

ARTICLES

Algermissen, Virginia L. "Growth and Development: The A&M Veterinary Library." *The Southwestern Librarian* 37 (1986): 191-92.
(A brief history of the veterinary medical library at Texas A&M University.)

Bawden, David, and Valleley, Caroline. "Veterinary Information: Sources and Use." *Aslib Proceedings* 1996 48(11/12):266-70.

Bishop, David. "Veterinary Medicine and the Medical School Library." *Bulletin of the Medical Library Association* 57 (1969): 275-80

Bruce, N. J. "Introducing New Library Technology to Veterinarians in Small Group Instruction." *Journal of Veterinary Medical Education* 15 (1988): 46-48.

Bruce, N. J. "Library Instruction for 4th-Year Students: Does it Pay?" *Journal of Veterinary Medical Education* 19 (1992): 92-95.

Bruce, Norma J. "Tapping Information Resources in Veterinary Medicine." *Journal of Veterinary Medical Education* 17 (1990): 30-32.

Bruce, Norma J. "Veterinary Medicine and Animal Health Journals: The New, the Redesigned, and the Retitled." *Serials Review* 16, no. 3 (1990): 39-46.

Bryant, Sheila J. "Food Animals and Veterinary Medicine." *Journal of Agricultural & Food Information* 5, no. 1 (2003): 75-84.

Coates, Linda L. "The San Diego Zoo Library 'Began With a Roar.'" *Science and Technology Libraries* 21, no. 3 /4 (2001): 101-20.

Cochenour, Donnice, and Tom Moothart. "E-journal Acceptance at Colorado State University: A Case Study." *Serials Review* 29, no. 1 (2003): 16-25.
(Survey of university faculty, administrators, and graduate students, including the College of Veterinary Medicine, to determine usage and acceptance of e-journals.)

Coffee, G. "Veterinary School Libraries Enter Computer Age." *Journal of the American Veterinary Medical Association* 208 (1996):1005.

Committee on Surveys and Statistics of the Medical Library Association. "Library Statistics of Veterinary Schools in the United States and Canada." *Bulletin of the Medical Library Association* 55 (1967): 201-06.

Crawley-Low, Jill. "Veterinary Medicine Books Recommended for Academic Libraries." *Journal of the Medical Library Association* 92 (2004): 473-88.

Croft, V. F., D. M. Prorak, and K. L. Banks. "Training Veterinary Students to Access Journal Article Abstracts from Remote Sites by Computerized Methods." *Journal of Veterinary Medical Education* 18 (1991): 33-36.

Davies, B. "The ASVIN project: a study of electronic and printed veterinary journals in the UK and Ireland." *Health and Information Libraries Journal* 19 (March 2002):21-32.

Drake, Miriam A., and Lawrence A. Woods. "An Information Service for Practicing Veterinarians." *Bulletin of the Medical Library Association* 66 (1978): 437-40.

Funkhouser, Norma F. "Betwixt and Between: Librarian and/or Informatician?" *Medical Reference Services Quarterly* 14, no. 3 (1995): 53-57.
(The author describes her joint Texas A&M appointment of medical librarian and lecturer in the College of Veterinary Medicine, and explains how her work in both worlds brings new perspectives to each.)

Harden, Florence. "The Guides to the Literature of Veterinary Medicine." *Bulletin of the Medical Library Association* 32 (1944): 230-33.

Harden, Florence. "Some Contributions of Veterinary Medicine to Public Health." *Bulletin of the Medical Library Association* 33 (1945): 482-90.

Hicks, Joan Tomay. "Computer-Assisted Instruction in Library Orientation and Services." *Bulletin of the Medical Library Association* 64 (1976): 238-40.
(Using PLATO in the University of Illinois College of Veterinary Medicine. Author was a veterinary medical librarian at the University of Illinois.)

Houston, W. "The Application of Bibliometrics to Veterinary Science Primary Literature." *IAALD Quarterly Bulletin* 28, no. 1 (1983):6-13

Ikpaahindi, Linus. "Information Gathering Methods of Nigerian Veterinary Scientists." *Library and Information Science Research* 7(1985):145-57.

Jetté, Jean-Paul. "Availability of Veterinary Information in the Veterinary Libraries, Members of the Veterinary Medical Section/Medical Library Association, for Latin America." *IAALD Quarterly Bulletin* 26, no. 4 (1981):116-23.

Jetté, Jean-Paul. "Communiquer l'information vétérinaire sur Internet entre spécialists du monde entier." *IAALD Quarterly Bulletin* 41, no. 2 (1996): 192-95.
(Communicating veterinary information among specialists around the world on the Internet. In French; English summary.)

Jetté, Jean-Paul. "An International Association of Veterinary Librarians to Serve the Profession." *The Canadian Veterinary Journal* 21 (1980): 300.
(Letter to the editor, in English and French.)

Johnson, K. S. "Veterinary Medical School Libraries in the United States and Canada – A Second Look 1980-1981." *Journal of Veterinary Medical Education* 9 (1983): 41-45.

Johnson, K. Suzanne, and E. Guy Coffee. ""Veterinary Medical School Libraries in the United States and Canada 1977/78." *Bulletin of the Medical Library Association* 70 (1982): 10-20.

Kerker, Ann E. "Information Resources for Veterinary Medical Education." *Journal of Veterinary Medical Education* 1, no. 2 (1974): 7-8.

Kerker, Ann E. "Information Resources for Veterinary Medical Education." (Addendum I). *Journal of Veterinary Medical Education* 2, no. 1 (1975): 12-14.

Kerker, Ann E. "Information Resources for Veterinary Medical Education." (Addendum II). *Journal of Veterinary Medical Education* 2, no. 2 (1975): 18-19.

Kerker, Ann E. "The Library – The Workshop." *Journal of Veterinary Medical Education* 5 (1978): 16-18.

Leach, Sandra Sinsel, and Ann Viera. "Journals of the Century in Agriculture and Veterinary Medicine." *The Serials Librarian* 39, no. 2 (2000): 105-19.

Lee, Tamera, and L. J. Myers. "Document Delivery at a Veterinary Medical Library: A One-Year Study of Use Patterns. *Collection Management* 16, no. 2 (1992): 75-92.

Lee, Tamera, and Paul Bredderman. "Subset CD-ROM Databases from CAB International: VETCD and BEASTCD." *Database Magazine* 16, no. 4 (1993): 57-62.

Lee, Tamera P. "The Veterinary Medical/Health Sciences Library as a Continuing Education Opportunity for Veterinarians." *Journal of the American Veterinary Medical Association* 202 (1993): 381-83.

Loubiere, Sue. "Louisiana State University School of Veterinary Medicine Library." *Louisiana Library Association bulletin* 48 (1986):145-47.

MacNeil, K. J., V. L. Algermissen, and C. A. Neill. "Information Management Skills for Veterinary Students." *Journal of Veterinary Medical Education* 12 (1985): 25-26.

Mellinger, Margaret, and Mary Ellen Starmer. "Preservation in an Agriculture Library: Balancing Best Practices with Practical Considerations." *Journal of Agricultural and Food Information* 4, no. 3 (2002): 51-59.

(Authors discuss preservation activities and planning at the University of Tennessee's Agriculture and Veterinary Medicine Library.)

Murphy, Sarah Anne. "Applying Methodological Search Filters to CAB Abstracts to Identify Research for Evidence-Based Veterinary Medicine." *Journal of the Medical Library Association* 90 (2002): 406-10.
Erratum: *Journal of the Medical Library Association* 91 (2003): 275.

Murphy, Sarah Anne. "Consumer Health Information for Pet Owners." *Journal of the Medical Library Association* 94 (2006):152-58.

Murphy, Sarah Anne. "Research Methodology Search Filters: Are They Effective for Locating Research for Evidence-Based Veterinary Medicine in PubMed?" *Journal of the Medical Library Association* 91 (2003): 484-89.

Murphy, Sarah Anne, Martha A. Bedard, Jill Crawley-Low, Diane Fagen, and Jean-Paul Jette. "Standards for the Academic Veterinary Medical Library." *Journal of the Medical Library Association* 93 (2005): 130-32.

Olmstadt, William, Christine L. Foster, Nancy G. Burford, Norma F. Funkhouser, and Joe Jaros. "Clinical Veterinary Librarianship – The Texas A&M University Experience." *Bulletin of the Medical Library Association* 89 (2001): 395-97.

Pelzer, Nancy L. "Veterinary Subject Headings and Classification: A Critical Analysis." *Cataloging & Classification Quarterly* 18, no. 2 (1993): 3-18.

Pelzer, Nancy L., and Joan M. Leysen. "Library Use and Information-Seeking Behavior of Veterinary Medical Students." *Bulletin of the Medical Library Association* 76 (1988): 328-33.

Pelzer, Nancy. L., and Joan M. Leysen. "Use of Information Resources by Veterinary Practitioners." *Bulletin of the Medical Library Association* 79 (1991): 10-16.

Pelzer, Nancy L., and William H. Wiese. "Bibliometric Study of Grey Literature in Core Veterinary Medical Journals." *Journal of the Medical Library Association* 91 (2003): 434-41.

Pelzer, Nancy L., and William H. Wiese. "Online Tools for Accessing Veterinary Information: Electronic Continuing Resources." *Journal of Electronic Resources in Medical Libraries* 2, no. 4 (2005): 53-79.

Pelzer, Nancy L., William H. Wiese, and Joan M. Leysen. "Library Use and Information-Seeking Behavior of Veterinary Medical Students Revisited in the Electronic Environment." *Bulletin of the Medical Library Association* 86 (1998): 346-55.

Peterson, Sara R. "Evolution of a Veterinary Medical Library." *Bulletin of the Medical Library Association* 67 (1979): 36-41.

Raw, M.E. "Survey of libraries in veterinary practice." *Veterinary Record* 121, no. 6 (1987):129-31.

Roy, Donald E. "The Section Process for Veterinary Books in the General Medical School Library." *Bulletin of the Medical Library Association*. 72 (1984): 314-15.

Self, David A. "Searching the Literature of Veterinary Science." *Medical Reference Services Quarterly* 4, no. 4 (1985/86): 17-28.

Smith, Ronald D., and Mitsuko Williams. "Applications of Informatics in Veterinary Medicine." *Bulletin of the Medical Library Association* 88 (2000): 49-55.

Stephens, Gretchen. "Information Resources for Veterinary Medical Education." (Addendum III). *Journal of Veterinary Medical Education* 7 (1980): 110-13.

Stephens, Gretchen. "Information Resources for Veterinary Medical Education." (Addendum IV). *Journal of Veterinary Medical Education* 8 (1981): 77-78.

Switzer, Teri. "Colorado State University's Veterinary Teaching Hospital Branch Library: Eighty years in the Making." *Colorado Libraries* 17(1991):36-38.

Tennant, Michele R., and Tara Tobin Cataldo. "Development and Assessment of Specialized Liaison Librarian Services: Clinical vs. Basic Science in a Veterinary Medicine Setting." *Medical Reference Services Quarterly* 21, no. 2 (2002): 21-37.

Thomas, Barbara. "The Clinical Veterinary Librarian: An Update." *The Southwestern Veterinarian* 35 (1983): 221-22.
(An update on the clinical veterinary librarian pilot program at Texas A&M University, first described in a short item in vol. 33 (1980), p. 233 of this journal.)

Veenstra, Robert J. "A One-Year Journal Use Study in a Veterinary Medical Library." *Journal of the American Veterinary Medical Association* 190 (1987): 623-26.

Veenstra, R. J., and J. C. Wright. "Coverage of Sixty Core Veterinary Medical Journals by Ten Indexing and Abstracting Tools." *Journal of the American Veterinary Medical Association* 196 (1990): 1931-36.
Comment in: "Misunderstanding about Bibliography of Agriculture." *Journal of the American Veterinary Medical Association* 197 (1990): 963.

Viera, Ann. "Marking Retracted Papers at the Webster Pendergrass Agriculture Veterinary Medicine Library." *Bulletin of the Medical Library Association* 88 (2000): 273. (Letter to the editor.)

Whitaker, Susanne. "Veterinary medical librarians: your link to quality information." *Journal of the American Veterinary Medical Association* 219 (2001): 892.

Wiese, William H. "Veterinary Guides for Livestock and Poultry Owners." *Journal of Agricultural & Food Information* 6, no. 2/3 (2004): 65-91.

Youngen, Greg. "5th International Conference of Animal Health Information Specialists (ICAHIS)." *Library Hi Tech News* no. 8 (2005): 39-41.

ARTICLES: THE BASIC LIST OF VETERINARY SERIALS AND THE ANNUAL PRICE STUDIES

Henley, Atha Louise. "Organization and Compilation of a Basic List of Veterinary Medical Serials." *Journal of Veterinary Medical Education* 5 (1978): 136-38. (The full list of titles is included in the article.)

Henley, Atha Louise. "A Basic List of Veterinary Medical Serials." *Bulletin of the Medical Library Association* 67 (1979): 405-06. (Letter to the editor.)

Boyd, C. Trenton, David C. Hull, Kathrine J. MacNeil, Judie Malamud, and David C. Anderson. "Basic List of Veterinary Medical Serials 2nd Edition, 1981, With Revisions to April 1, 1986." *The Serials Librarian* 11, no. 2 (1986): 5-39.

Anderson, David C. "Journals for Academic Veterinary Libraries: Price Increases, 1977 and 1983 through 1986." *The Serials Librarian* 11, no. 2 (1986): 41-49. (Comparative price study based upon the Basic List of Veterinary Medical Serials, 2nd ed., as adopted by the Veterinary Medical Libraries Section, Medical Library Association in 1981 and revised for publication in 1986.)

Anderson, David C. "Journals for Academic Veterinary Libraries: Price Increases, 1977, 1986, and 1987; Page Costs, 1977 and 1986." *The Serials Librarian* 14, no. 1/2 (1988): 81-88. (Second comparative price study based on the Basic List.)

Anderson, David C. "Journals for Academic Veterinary Medical Libraries: Price Increases, 1977, 1987 and 1988." *The Serials Librarian* 15, no. 1/2 (1988): 163-71. (Third annual price study based on the Basic List.)

Anderson, David C. "Journals for Academic Veterinary Medical Libraries: Price Increases, 1977, 1988 and 1989. *The Serials Librarian* 16, no. 3/4 (1989): 81-91. (Fourth annual price study.)

Anderson, David C. "Journals for Academic Veterinary Medical Libraries: Price Increases, 1977-1990 and 1983-1990." *The Serials Librarian* 18, no. 3/ 4 (1990): 73-86. (Fifth annual price study.)

Anderson, David C. "Journals for Academic Veterinary Medical Libraries: Price Increases, 1977-1991 and 1983-1991." *The Serials Librarian* 21, no. 1 (1991): 47-63. (Sixth annual price study.)

Anderson, David C. "Journals for Academic Veterinary Medical Libraries: Price Increases, 1983-1992." *The Serials Librarian* 23, no. 1/ 2 (1992): 113-28. (Seventh annual price study.)

Fackler, Naomi P. "Journals for Academic Veterinary Medical Libraries: Price Increases, 1983-1993." *The Serials Librarian* 25, no. 1/ 2 (1994): 157-67. (Eighth annual price study.)

Fackler, Naomi P. "Journals for Academic Veterinary Medical Libraries: Price Increases, 1983-1994." *The Serials Librarian* 27, no. 4 (1995): 41-50. (Ninth annual price study.)

Fackler, Naomi P. "Journals for Academic Veterinary Medical Libraries: Price Increases, 1983-1995." *The Serials Librarian* 29, no. 1/ 2 (1996): 17-27. (Tenth annual price study.)

Fackler, Naomi P. "Journals for Academic Veterinary Medical Libraries: Price Increases, 1983-1996." *The Serials Librarian* 31, no. 4 (1997): 41-52. (Eleventh annual price study.)

Fackler, Naomi P. "Journals for Academic Veterinary Medical Libraries: Price Increases, 1983-1997." *The Serials Librarian* 35, no. 3 (1999): 43-53. (Twelfth annual price study.)

Fackler, Naomi P. "Journals for Academic Veterinary Medical Libraries: Price Increases, 1983-1998." *The Serials Librarian* 37, no. 1 (1999): 33-42. (Thirteenth annual price study.)

Fackler, Naomi P. "Journals for Academic Veterinary Medical Libraries: Price Increases, 1983-1999." *The Serials Librarian* 39, no. 1 (2000): 19-28. (Fourteenth annual price study.)

Kok, Victoria T., and Eleanor P. Garrison. "Journals for Academic Veterinary Medical Libraries: Price Increases, 1983-2000." *The Serials Librarian* 41, no. 1 (2001): 21-30. (Fifteenth annual price study.)

Kok, Victoria T., and Eleanor P. Garrison. "Journals for Academic Veterinary Libraries: Price Increases, 1983-2001." *The Serials Librarian* 43, no. 1 (2002): 31-43. (Sixteenth annual price study.)

BOOKS AND BOOK CHAPTERS

Boschert, Kenneth R. *Netvet: Mosby's Veterinary Guide to the Internet*. St. Louis, MO: Mosby, 1998.

Crawford, Richard L. *Selected Web Sites for biomedical, pharmaceutical, veterinary and animal sciences.* Beltsville, Md.: U.S. Dept. of Agriculture, National Agricultural Library, Animal Welfare Information Center, 1999. (Author is a veterinarian; emphasis on veterinary related sites)

Gibb, Mike. *Keyguide to Information Sources in Veterinary Medicine*. New York: Mansell Pub., 1990.

Kerker, Ann E., and Henry T. Murphy. *Comparative & Veterinary Medicine: A Guide to the Resource Literature*. Madison, WI: University of Wisconsin Press, 1973.

McCord, Sarah K., and Vicki F. Croft. "Instructional Outreach and Liaison to a Veterinary Medicine Program at Washington State University." In *Developing End User Programs in Medical Libraries*, edited by Elizabeth Connor, 15-24. New York: Haworth Press, 2005.

Olsen, Wallace C., ed. *The Literature of Animal Science and Health*. Ithaca, NY: Cornell University Press, 1993.

Stephens, Gretchen. "Animal Health and Veterinary Sciences." In *Using the Agricultural, Environmental, and Food Literature*, edited by Barbara S. Hutchinson and Antoinette Paris Greider, 75-134. New York: Marcel Dekker, Inc., 2002.

Veterinary Medical Libraries Section, Medical Library Association. *Veterinary Serials: A Union List of Serials Held in Veterinary Collections in Canada, Europe and the U.S.A.* 2nd ed. Chicago: Veterinary Medical Libraries Section, Medical Library Association, 1987. 2 vols.

CONFERENCE PAPERS

Armstrong, E. Alan, Vicki F. Croft, Victoria T. Kok, and Edward F. Lener. "Electronic Resources Access: Issues and Resolutions in Two Academic Libraries." In *Proceedings, 4th International Conference of Animal Health Information Specialists, 6-9 August 2003, Budapest*. http://library.univet.hu/icahis/proc/kkok.pdf (accessed September 13, 2005).

Behm, Leslie M. "HealthWeb: Veterinary Medicine – An Interface to Evaluated Resources on the Internet." In *Proceedings of the Second International Conference of Animal Health Information Specialists*, July 1-4, 1997, edited by Johnny M. Carlsson and

Anna Gjerluf Eslau, 52-55. Frederiksberg, Denmark: Danish Veterinary and Agricultural Library, 1998.

Brown, F. and Dozier, M. "Developing information skills training to meet the changing needs of veterinary education" [abstract]. In *Proceedings, 5th International Conference of Animal Health Information Specialists, 2005.* Available at: http://www.ais.up.ac.za/vet/icahis/5icahabs.htm
(The paper investigates how staff in the Veterinary Libraries have collaborated with colleagues in the Medical Libraries, using the example of information skills training for medical students to tailor training for veterinary students. The paper discusses how Library staff liaised with the Veterinary School to integrate information skills training into the undergraduate curriculum).

Carlson, Livija. "The role of the library in supporting education and research in veterinary colleges." From Veterinarmedicinas raksti, Congress for the State Veterinary Dept. & Latvian Assn of Veterinarians, Jelgava, Latvia, June 26, 1997. Available at: http://vetmed.lib.umn.edu/referats.phtml

Carrigan, Esther, and Nancy Burford. "The Road to an Electronic Journal Collection: Using Data to Pave the Way." In *Proceedings, 4th International Conference of Animal Health Information Specialists, 6-9 August 2003, Budapest*. http://library.univet.hu/icahis/proc/kburford.pdf (accessed September 13, 2005).

Croft, Vicki F., Sarah K. McCord, and Zinthia C. Briceño-Rosales. "When is Online Not Enough? A Comparison of the Print and Online Versions of 14 Veterinary Journals from 13 Different Vendors/Publishers." In *Proceedings, 4th International Conference of Animal Health Information Specialists, 6-9 August 2003, Budapest*. Http://library.univet.hu/icahis/proc/kraft.pdf (accessed September 13, 2005).

Cuk, A. "Improving access of veterinarians to drug information—the role of librarians." In *Proceedings 8th European Conference of Medical and Health Librarians, 2000*. Available at: http://www.zbmed.de/fileadmin/pdf_dateien/EAHIL_2002/cuk-proc.pdf

Jumonville, Judy, and Sue Loubiere. "An Innovative Approach to Display and Preservation of Faculty Publications." In *Proceedings of the First International Conference of Animal Health Information Specialists*, July 16-19, 1992, edited by Mitsuko Williams, C. Trenton Boyd, Vicki F. Croft, and Carol M. Downs, 115-18. Reading, England: Whiteknights, University of Reading, 1993.

Kok, Victoria T., and John C. Lee. "Establishment of Bibliographic Instruction as an Independent Course in a Veterinary Medical College." In *Proceedings of the Second International Conference of Animal Health Information Specialists*, edited by Johnny M. Carlsson and Anna Gjerluf Eslau, 22-26. Frederiksberg, Denmark: Danish Veterinary and Agricultural Library, 1998.

Kopper, Carolyn. "Teaching Users to Utilize Animal Health Information in an Electronic Environment. In *Proceedings of the First International Conference of Animal Health Information Specialists*, July 16-19, 1992, edited by Mitsuko Williams, C. Trenton Boyd, Vicki F. Croft, and Carol M. Downs, 135-39. Reading, England: Whiteknights, University of Reading, 1993.

Murphy, Sarah Anne. "Bridging the Geographic Divide: Information Access for Remote Veterinarians: A Case Study of Outreach and Engagement in Ohio." In *Proceedings, 4th International Conference of Animal Health Information Specialists, 6-9 August 2003, Budapest*. http://library.univet.hu/icahis/proc/kmurphy.pdf (accessed September 13, 2005).

Murphy, S.A. "Patching the publicity disconnect: promoting information resources and services to Ohio veterinary professionals" [abstract]. In *Proceedings 5th International Conference of Animal Health Information Specialists, 2005.* Available at: http://www.ais.up.ac.za/vet/icahis/5icahabs.htm

Williams, Mitsuko, and Vicki F. Croft. "Managing the Grey Literature in Veterinary Medicine: Challences and Opportunities." In *Proceedings of the Second International Conference of Animal Health Information Specialists*, July 1-4, 1997, edited by Johnny M. Carlsson and Anna Gjerluf Eslau, 101-09. Frederiksberg, Denmark: Danish Veterinary and Agricultural Library, 1998.

MISCELLANEOUS

"Directory of Information Sources, Veterinary Library Services." In *AVMA Directory*. Schaumberg, IL: American Veterinary Medical Association. Published annually.

Goldhor, Herbert, et al. "The In-House Use of Materials in a Veterinary Medicine Library." ERIC Document (RIE). 1987. 21p. ED290478.
(This study involved brief interviews of several hundred users of the University of Illinois Veterinary Medicine Library regarding the purpose of their visit and their in-library use of materials.)

Highlights and News Notes. ISSN 1068-0837. Newsletter of the Veterinary Medical Libraries Section of the Medical Library Association. Biannual. Published at the Medical Sciences Library, Texas A&M University.
Recent issues are freely accessible online at: http://msl.tamu.edu/hnn.htm

Veterinary Medical Libraries Section, Medical Library Association. *Survey of Veterinary Medical Libraries in the United States and Canada 2000/2001*. Compiled and produced at the Veterinary Medical Library, Virginia Polytechnic Institute and State University, for the Veterinary Medical Libraries Section of the Medical Library Association. May 2002.

http://www.lib.vt.edu/services/branches/vetmed/VMLS/2000-2001%20Survey%20Results.pdf
(Survey results for 1998/1999 and 1999/2000 are also available at the VMLS Web site.)

Vreeland, Carol E. "A Survey of Consumer Health Reference Services Policies of Academic Medical School Libraries and Veterinary Medical School Libraries." Masters paper, University of North Carolina, Chapel Hill, 1999.

ABOUT THE AUTHORS

Nancy L. Pelzer is the Science and Agriculture Catalog Librarian and an Associate Professor in the Iowa State University Library Cataloging Department. Prior to receiving her MA degree in Library Science from the University of Iowa, she did graduate work in the field of animal science at the Rutgers University College of Agriculture, followed by research in veterinary science at the Washington State University College of Veterinary Medicine. Her library research has focused on access to veterinary materials. Since 1988, in a series of published articles she has addressed how and whether information of various types is utilized by the veterinary community, suggested how access to veterinary medical materials in library catalogs might be improved through more appropriate classification and subject headings and, most recently, how veterinary medical library Web sites provide "one-stop-shops" for accessing quality, authoritative information relating to veterinary medicine. From 2001-2004 she served as an Editorial Board member for the *Journal of the Medical Library Association*. She has written numerous book reviews for *Science Books & Films, Journal of Agricultural and Food Information* and *Journal of the Medical Library Association.*

William H. Wiese is Veterinary Medical Reference and Collections Librarian and Associate Professor at Iowa State University. He received the MA degree in Library and Information Science from the University of Iowa in 1984. Prior to coming to Iowa State University Library, he held librarian positions at Kansas State University and Oklahoma State University where his work focused on collections and reference in the agricultural and life sciences. He has authored or co-authored articles on various aspects of veterinary, agricultural, and science librarianship, and with two co-authors shared the 2004 Jesse H. Shera Award for Distinguished Published Research from the American Library Association's Library Research Round Table. His book reviews have been published in *Library Journal*, *American Reference Books Annual*, *Science & Technology Libraries*, and *Science and Technology Annual Reference Review*. He has been involved in the development and upkeep of the AgNIC Swine Page, Iowa State University's contribution to the Web site of the Agriculture Network Information Center, National Agricultural Library. He is a member of the Veterinary Medical Libraries Section, Medical Library Association.